SLOWING DOWN: HOW COLLABORATIVE PAIRS SUPPORT MEANING MAKING AND THE WRITING PROCESS IN AN ELEMENTARY CLASSROOM

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Abstract

The teacher action research study was conducted within a third-grade classroom. The participants of the study were eight English Language learners who worked in pairs to write a retelling of a storybook. The need for this research developed from observations made by the classroom teacher focusing around the animated oral storytelling of her students and how that joy did not translate to writing. Data was collected in the forms of video and audio recordings, student samples and a research journal. The study attempted to discover what decisions students made as they focused on their written retelling in a collaborative pair. Increasing interaction between students became a main focus of the study and the ideas of sociocultural theory were the main themes that drove the analysis of this research. The study showed that students utilized a variety of mediational tools available to them as they made meaning and participated in collaborative dialogue. They also spent time supporting each other by utilizing those mediational tools to increase the success of their retelling, as well as by giving social support when their partner was flustered or overwhelmed.

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Chapter 1: Introduction

Is this good? How do you spell 'walked'? What am I supposed to do next? I can't think of anything good. This is too hard. Silence, tension, avoidance. Those are experiences I often ran into in my classroom as my students tried to buckle down and write. They were constantly second guessing their abilities as they created and revised during the writing process. What was even more curious was that the way they communicated off paper showed a completely different level of proficiency and language competence than when they were writing.

During the collection of the research relevant to this thesis, I was teaching in a third-grade classroom. The school community I served was in Nunapitchuk Alaska, a remote Yup'ik village part of the Lower Kuskokwim School District. The students in this study were third graders. All these students speak or understand their indigenous language of Yugtun. All these students are considered Alaska Native students and participate in cultural activities in their homes that are integral to their cultural heritage and traditions. Anna Tobeluk Memorial School (ATMS) is an English only village school that serves roughly 215 students from kindergarten through 12th grade. Through the course of my graduate education, and my experience as a monolingual English speaker in this community, I became aware of the obstacles involved in second language acquisition (SLA) and became more and more interested in how I could support the language and literacy development of my students as they learned a second language. This teacher action research took place in my 6th year of teaching involving my very own students.

My experience at ATMS allowed me to develop my skills as an educator. My time there afforded me the opportunity to teach students in third through sixth grades, giving me experience teaching students with a range of abilities. Being in an Alaskan village school required that I

develop skills that I was not taught in my undergraduate education. Not only was I responsible for subjects like gym, art or music, I was also responsible for language development in these second language English learners.

Curiosity Blooms

As I watched my students interact and grow over the course of my years teaching, I was drawn in by their communication style. How they gestured and used their facial features, in both their first and second languages. While communicating, some would freely switch between English and Yugtun while some would stick to their second language. Either way, most seemed unabashed in their ability to tell a story, share ideas or talk to a friend. Early in my career I did not think much about the value of talk as it related to learning. I loved when classroom discussions happened, but they were few and far between and I never stopped to think why they were or were not occurring in my classroom. As an early career teacher, I was just excited they were communicating but did not understand the value behind that communication until a few years later. But through my own education, I realized that the joy I felt hearing my students talk in class was because I saw collaboration as an important attribute of a learning community. It became something I began to consciously value as a classroom teacher and I began providing students opportunities to verbally collaborate and share ideas.

What I noticed was that my students were engaged when they shared their thoughts verbally but when it came time to write those ideas down, that confidence faltered. As their teacher I was compelled to help them find a solution to making writing a little less daunting. What could I do? Where should I start? What strategies, knowingly or unknowingly, were they already implementing that I could help develop so they could become more confident? What was the disconnect between their ability to share orally versus through writing?

My Philosophy

My educational philosophy views language and literacy development as social events. By focusing on social learning while learners in my classroom are developing their second language (L2), I can observe how students use language in realistic and natural settings. In my classroom, I want to push away from the call and response setting and focus on the value of natural conversation. A social approach to language acquisition necessitates talk and interaction in the target language. The idea is that the more learners utilize the target language, the more they can observe and notice features of the language that they are trying to become proficient in. As I learned more about interaction and collaboration in my graduate coursework, my teaching philosophy became more and more focused on social interaction. With my new knowledge about SLA and collaboration, I began to wonder how I could meld these ideas about interaction and what I was seeing in my students as writers in order to help my students as they developed their English language.

I thought about the collaborative nature of sharing and talking. Could it be that my students were eager and proud to tell stories because they knew who was listening? They could see their audience, get help from a friend who had been there, and have immediate feedback from their listeners? But isn't writing storytelling? Not the way traditional westernized schools structure it and not compared to the cultural traditions of my students. In western schools, I believe that written storytelling is seen as an individual activity.

The more I learned about language acquisition and the pedagogy surrounding teaching language learners, the more I came to believe that it is a social task--that to learn a language means to use that language and in order to use that language, the learner must interact with others. That sentiment echoes the current educational climate that schools are pushing for:

interactive, hands-on learning within classrooms. Curricula and other experts encourage teachers to bring manipulatives, real life scenarios, and projects into subjects like math, science and social studies. If I believe that language learning is social, and I also believe that learning in general is most successful in a cooperative group, why not take those ideas into the writing arena as well?

Research Questions

This thinking led me to develop one overarching research question: *What patterns in output emerge during collaborative writing*? From that question, two others emerged. They are: *What happens when my students engage in collaborative writing? How do my students work together as they co-construct meaning during collaborative writing?*

My research questions were not created to find a solution to the hurdles in my classroom but instead to open a window for me to see my students as they worked on writing. If I allowed them opportunities to talk about their writing with a partner to help them as they constructed writing, what would I see? What strategies would they use? What conversations might they have? This research was designed to give me insight into what students were already doing as they co-constructed writing, as well as allow me to see what they focused on as they made meaning.

Through my research I hoped to learn more about the way my students interacted as well as gain insight into the collaboration methods they used that helped them construct comprehensible output through writing. I hope to use those patterns to help them develop even more as writers and collaborators. By conducting teacher action research (TAR) on collaboration, output, and writing, I hope to discover connections and tools to support the literacy instruction and the development of the writing skills of my students.

Significance of This Research

To answer my research questions, it was important for me to find procedures that promoted conversation and allowed for students to collaborate as they engaged in the writing process. It was also important for my students to be able to have control over their writing process as they constructed their retelling. Allowing them to take ownership could increase opportunities to create and talk about language and language use within the collaborative writing structure. When students are talking about language and the nuances of the language they are using, they are participating in an event that allows them to pay attention to the structure of the language they are using. Creating opportunities for this was significant to the understanding of my research questions. From these events I identified what patterns in the collaborative interactions my students had while retelling a storybook. I found that students use all the available resources from the story and their own language skills to help make decisions about what to write.

To be able to better see how they were thinking, I set up a task that would require dialogue that focused on developing the written retelling of a storybook. To increase opportunities for collaborative dialogue, I asked students to take turns writing and provided them with different colored writing utensils to allow the distribution of writing to be seen easily. This process of reading aloud, drawing, sequencing and retelling was done in three cycles. This would allow me to see if students changed their conversation focus and the way they worked together as they became more comfortable with their partner and the process.

This research is meaningful for educators because it opens viewing windows into the current thinking of students (specifically, third graders) as writers and how they use their language to construct writing. Educators can see what decisions students are making about their

language and writing. This research provided opportunities for students to discuss grammar, as well as vocabulary and meaning. Seeing what students are focusing on helps educators to know where the learners are in their writing journey. Educators can use this research to help categorize the thinking of students (e.g., spelling focused, vocabulary focused, meaning focused) and the way students synthesize information (e.g., using pictures, written words, verbal).

Educators might find value in the content and results of this study if they value collaborative work. Teachers who are unsure of how to set up a collaborative writing activity in their own classroom might find the procedures of this study useful. Teachers looking at this study will be able to create lessons and teach skills that will evaluate the writing and collaborative abilities of their students because the study seeks to provide insight into questions like: When my students run into a roadblock, what strategies do they employ to overcome it? What kinds of details (such as vocabulary, organization, and conventions) do students focus on during collaborative writing? What does that say about their readiness in writing? How do they ask for help or offer advice as they collaborate with a partner?

While this research study was individualized for the setting and participants, the procedures are easily duplicated. The value of this study is targeted toward the teacher-researcher or leader of the study; however, the data and conclusions are noteworthy for all researchers who are looking for evidence that collaborative work time is meaningful and productive for students. The purpose of this research is to help educators understand their students as writers and collaborators and this study gives invaluable insight into choices these students are making as writers that might not have been gleaned from independent work alone.

Within this Paper

The structure of this thesis follows a five-chapter organization system. The first chapter introduced the researcher, her beliefs, research questions and why this research is valuable. Chapter 2 presents research within the fields of second language acquisition and literacy in an effort to lay the groundwork for a better understanding of the conceptual framework this study was built on. Concepts and theories discussed in Chapter 2 focus on sociocultural theory, collaborative dialogue, and multiliteracies. Connections between how students utilize their resources within the multiliteracies framework and how that use is present in their dialogue and writing will also be discussed. In Chapter 3, I describe in detail the research procedures, data collection techniques, as well as the techniques used to analyze the data. Chapter 4, the data analysis, explains significant patterns found in the data as they were being analyzed. Here I will discuss how the data collected attempts to answer my research questions. Finally, Chapter 5 reviews the research, explains findings and lays out possible implications for teachers and other researchers interested in a similar study.

Chapter 2: Literature Review

This chapter presents the research that supported and led to the study included in this thesis. This research orbits around the following concepts: sociocultural theory, meaning making, and the design cycle. Sociocultural theory of interaction values learning language through authentic social settings and through the use of collaborative dialogue to convey meaning. Supporting this framework are the ideas of mediation and support through collaborative dialogue.

The next concept presented in this chapter is multiliteracies and how learners interpret and gain understanding from a variety of sources. This leads to the importance of providing information through a variety of modes (mediational tools), as well as culturally relevant texts, through which meaning can be gained. Within multiliteracies, another concept that helped develop the rationale for this study presented in this paper is the design cycle, through which students interact with physical and cognitive tools in order to create meaning. All of these ideas are supported by the meaningful use of collaborative dialogue as students work together.

The research presented in this chapter describes the positive outcomes teachers can see as they allow their students to have access to meaning making tools, work through the design cycle and engage in collaborative dialogue about culturally relevant texts. As I began to understand more theories and ideas around language acquisition, my own beliefs became more developed. I became drawn to how interaction and mediation were integral in helping students build knowledge and produce work that led to language learning.

Learning is Social: Understanding Sociocultural Theory

A belief held in this research is that learning is social; therefore, language learning is also best done within a social, interactive setting. Giving language learners opportunities to practice

learning and explore their language knowledge without fear of judgement is essential to the process. Sociocultural theory (SCT) best encompasses this belief. SCT values interaction and mediation and recognizes there is value in the testing of hypotheses between learners because that is where language learning is likely to occur (Swain, 2000).

Based on the work of Vygotsky (1978) and further developed by many others, "SCT views the development of all complex human cognitive facilities, including the learning of first and subsequent languages (Luria, 1973) as inherently social and mediated by artefacts" (Storch, 2017, p.69). The idea is that information is gained, and more complex understandings of language are developed, in interactive settings where those languages are being used and applied in real time with tools (artefacts) that support students as they communicate meaning.

Swain (2000) presented research focusing on French immersion students that supports this idea of interactional learning. The students had received years of teacher-directed language learning in French, and their actual spoken and written use of the language revealed "numerous grammatical and syntactical deviations from native speaker usage" (Swain, 2000, p. 99). The argument here is that meaningful interaction creates extended use of the target language, therefore pushing learners to meet communicative goals, which is a principle on which few language classrooms are structured. A great deal of research in this area discusses the importance of this interaction happening between an expert member of the target community such as an adult or capable peer, and a novice such as a student (Storch, 2017; Swain, 2000). A deeper discussion on the significance of peer interaction will be discussed later in this chapter as it relates to the definition of output and mediation.

Mediation and SCT.

An important feature of SCT is the process of mediation that occurs as students are working together. Simply put, mediation is the process of using tools, either physical or psychological, to understand one's place and relationship in the world. Vygotsky (1978) explained that these tools "act as an instrument of psychological activity in a manner analogous to the role of a tool in labor" (p. 52). The definitions for *tools* and *signs* are important to state clearly. An important distinction for Vygotsky is that *tools* change the object much like a chisel would change stone but *signs* "change nothing in the object of a psychological operation. It is a means of internal activity aimed at mastering oneself" (1978, p. 55). Just as physical tools help us construct buildings or accomplish other physical goals, signs (symbolic tools) help accomplish mental goals: "Mediation occurs when we use tools to enable or enhance our actions, including our thinking processes" (Storch, 2017, p. 71). For example, tying a string on a finger is a commonly used sign to support the mental process of remembering. Another important quality of mediation is that the tools being used are for cognitive purposes in addition to social purposes, meaning that they are for mental activity and the goal is to solve problems rather than simply communicate (Storch, 2017).

The term *symbolic tool* has been used to describe artefacts, such as numbers, art or language, that might enable an individual to engage in mental activities (Swain, 2000; Storch 2017). Other types of symbolic tools that can be utilized by language learners are the language itself, writing, numbers, groups or categories, logic and decision making (Lantolf, Thorne, & Poehner, 2015). Language is considered a powerful tool as it can be used to mediate both our physical and mental world (Swain, 2000). Storch (2017) echoes this sentiment: "Language is considered the most powerful mediating tool but only when it is used for cognitive purposes (e.g.

to plan, to focus attention)" (pp. 71-72). Throughout this thesis, symbolic tools will be called *mediational tools*.

Through interaction, learners may think about the language they are using as they work to communicate in that language. Essentially, they are using what they know about the language they are producing and the other physical or symbolic mediational tools at their disposal to participate in mental activities in order to make meaning or create understanding.

Examples of mediation in the classroom are present in conversations between an expert (teacher) and novice (student). One study that focuses on the use of mediational tools within a collaborative setting is that of Siekmann and Charles (2011), which implemented the use of *dynamic assessment* (DA). DA is assessment conducted through conversation, usually with a teacher, where the student is allowed to clarify assessment items with the goal of gaining a better understanding of the mediation required for a correct response from the learner. During these teacher-student discussions, charts from the textbook were hung on the wall in full view of the learner because these charts were expected to be heavily utilized as mediational tools for the learner to draw understanding as he worked to clarify and correct his independent assessment in the presence of the instructor. By conducting DA, the instructor cultivated an understanding of the student's abilities which would not have been known through independent assessment. Rather, that student would have simply been seen as failing the course.

Providing opportunities like these for students to verbally test out language ideas can be eye opening. While the research above was done with a learner and an instructor, the same general process can be done through peer interaction. By observing peer interactions and how students access mediational tools, teacher researchers can gain much insight as to what students are still struggling to understand about the target language just as Siekmann and Charles (2011)

did. Students could participate in collaborative dialogue that helps each learner understand sentence structure or other parts of the target language more clearly. Decisions in group work about how to best solve a math problem or a reader using pictures to help decode words while reading are both examples of using mediational tools (language or images/pictures) to mediate content and decision making. By setting interaction up to maximize language use and create opportunities to utilize mediation tools, students can use language and mediational tools to make decisions about the task at hand while demonstrating their understanding of the language, giving the researcher a peek into their thinking process.

Support and SCT.

During interactions where mediation is happening, the participants work together and support each other to allow learning can take place. Generally, that is seen when an expert creates supportive conditions that help the learner reach beyond their individual capabilities and better understand the concepts at hand (Donato, 1994). From an SCT viewpoint, "assistance is key to cognitive development" (Storch, 2017, p. 73). So, when learners are interacting with an expert, that expert should take into consideration both the cognitive goal and the current capabilities of the learner and adapt to support the learning. Thus, interaction and support go hand in hand.

Vygotsky suggested that the developmental level of a child is not limited to what that child can accomplish on an independent level but what they can do with the assistance of another must also be taken into account, stating that "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" is of great importance (Vygotsky, 1978, p. 86). The study in this thesis investigates how

learners might support each other as they work in pairs to retell a story based on student created images.

Wood, Bruner and Ross (1976) conducted research with an adult (tutor) and children ages 3-5 (learners). The study focused on the supportive relationship between the tutor and the learners as the learners attempted to complete building tasks involving blocks. Through this study, Wood et al. (1976) noticed and listed six *scaffolding functions* which were created to outline and explain the role of the tutor (expert). Those six features are: *recruitment, reduction in degrees of freedom, direction maintenance, marking critical features, frustration control,* and *demonstration*.

While the work of Wood et al. (1976) focused on the relationship between an expert and a novice, Donato (1994) took these ideas and applied them to peer groups. He wondered if given an open-ended collaborative task, peers would provide similar support to each other that might be beneficial to both learners (Donato, 1994). He concluded that "collaborative work among language learners provides the same opportunity for scaffolded help as in expert--- novice relationships in the everyday setting" (Donato, 1994, p. 41). In other words, peers in a language learning setting use each other to negotiate and create meaning through their language use as they work within a mutual learning space (Storch, 2002). The argument is that as pairs of students support each other and create meaning, ideas from each learner are valued. Here, one student might be supporting another and then suddenly the roles switch to allow for both students to make language ideas salient based on both the needs of the individual and the topic of the interaction. For example, when working on a math problem, two learners might have the background abilities in computation to solve a problem but one might get stuck with the

application of a new concept. To support their peer, a partner might connect ideas through other shared knowledge or different explanations, offering the support needed to reach the solution.

Output and SCT.

Since SCT values interaction, and the nature of interaction is to work with others, one can deduce that this theory also values talk (output). *Output* is a metalinguistic function that helps learners notice a gap, or missing knowledge, in their language use. As they create meaning and produce forms, learners discover what they can and cannot do (Swain, 2000). "Output pushes learners to process language more deeply –with more mental effort—than does input because the speaker needs to not only make sense internally, but also to the people they are communicating with" (Swain, 2000, p. 99). But not all output is created equal. Speaking for the sake of speaking is not output. Asking students to repeat or read aloud is not output. Output needs to be comprehensible and used to convey meaning that pushes language use (conversation or problem solving) forward. The idea is that language is a tool to be used, not an object to be studied. This means that allowing students to participate in language use leads to development in that language if the language is being produced to achieve a goal. Learners can speak or write as they participate in comprehensible output. Putting learners in pairs and asking them to work together provides them opportunities to use language and test language hypotheses. As they test those hypotheses, language learners engage in comprehensible output in the target language that leads to shared understanding.

Swain and Lapkin wrote that "dialogue provides both the occasion for language learning and the evidence for it. Language is both a process and a product" (1998, p. 320). In other words, students who are involved in dialogue are using the target language so they can effectively communicate with their partner in order to solve a problem or achieve a goal. Swain

and Lapkin (1998) conducted research within a French classroom and reported how students used dialogue to create meaning. The study was done using a jigsaw method where dyads received a set of pictures that told a story and each student within the dyad got half of the pictures. They then worked together to recreate that story in a written format. The researchers focused on *language related episodes* (LRE), defined as "any part of a dialogue where the students talk about the language they are producing, question their language use or correct themselves or others" (Swain & Lapkin, 1998, p. 326). Swain and Lapkin (1998) focused on specific types of LREs between two French-immersion students (Kim and Rick) that either enhanced mental processes (such as hypothesis generation/assessment or rule application), or LREs that indicated opportunities for language learning based on pre and post-test results. Swain and Lapkin (1998) described two types of LREs they classified from the study. The first was *lexis-based* LREs which involved the students discussing vocabulary choices in French. The second LRE classification was *form-based*. This LRE involved students focusing on spelling or syntax, usually in writing (p. 326). The dialogue between the students shows evidence that engaging in LREs helped language learners with their language development. The researchers were able to see that Kim and Rick spent time assessing their own use of the target language and collaboratively constructed meaning as well as form.

Swain continued to develop the idea of output and began to use the term *collaborative dialogue*. Collaborative dialogue "is what allows performance to outstrip competence. It is where language use and language learning can co-occur" (Swain, 2000, p. 97). It involves language use where students make and communicate meaning by building on the language of their partners, using language to talk about language, or by asking questions that lead them to understand the language more deeply (Swain, 2000). This could be seen as an extension of

LREs. LREs are events focusing on students noticing the language features in their own language use and the dialogue surrounding the correct or incorrect forms.

Collaborative dialogue, however, focuses not only on the conversation surrounding language forms and features, but also on students' ability to construct meaning using the target language. So, not all LREs are collaborative dialogue because not all LREs focus on meaning. For the purpose of this study, collaborative dialogue will be the term used to describe conversations between learners that builds meaning or knowledge. Through collaborative dialogue, learners can stretch their understanding of the target language. In pairs and small groups learners can not only use language to discuss language features as they build understanding of a shared context or idea, but they can also use it as a tool to "coordinate their action to invoke and share attention" (Storch, 2017, p. 72). Students are not only mediating their language use and testing hypotheses about that language, they are also learning and testing hypotheses about their relationship with each other. As students' knowledge bases (or funds of knowledge, explained later in this chapter) are drawn upon, so is the knowledge of their peers. In this way a community of learning can be created, based not only on the academic knowledge the students have, but also on the community and cultural knowledge they possess. Multiple minds using all their resources is a powerful tool within a language learning community. Swain (2000) very confidently claims that the knowledge of the combined group allows an individual to perform at a higher level than their individual linguistic knowledge allows.

Another example of the value of how dialogue can support language learning was reported in Swain (2000) as two different female French immersion students worked to recreate a text they heard. The first student presented a hypothesis about the target language and together

the two students tested the hypothesis through other language activities focusing on feminine or masculine forms to create a grammatically correct sentence in the end. It is only through the dialogue between two learners that researchers can see the metacognitive processes that would have otherwise been hidden within the learner. This ability to see into the thinking of the language learner and how students support each other as they test hypotheses is an invaluable product of interaction within the language learning setting.

Goss, Ying-Hua, and Lantolf (1994) investigated how to research mental processes during problem solving. They found that when collaborating and using language with a partner with the single goal of solving a problem, this interaction and the resulting dialogue allows researchers a glimpse into the metacognitive processes of the learners. Goss et al. (1994) believe that "the human mind is not individually constituted but is socioculturally derived and therefore recognizes that talk is spontaneously generated by individuals in collaborative problem-solving situations" (p. 266). According to Goss et al. (1994), students who are participating in collaborative problem-solving activities are working towards one goal: solving the problem, and thus use language in a familiar way, allowing for opportunities to see how they think without the difficulty of having to explain it.

It is this idea within SCT, the peer support, that I am interested in. Storch (2017) explains that the learning environment should "view the learner as agentive rather than a passive recipient of assistance" (p. 71). When students are interacting as a community of learners, "authority is as much within the student as it is the teacher," thus providing power to students and increasing engagement (Healy, 2008, pp. 17-18).

It is important to understand mediation and further, language as a tool, because it can give information to teachers of language learners on how students are interacting with those

mediational tools to solve their problems. Understanding the ways students might mediate as they problem solve, allows for an understanding of the choices they make as they interact and participate in collaborative dialogue.

Multiliteracies and Meaning Making

Understanding how readers make meaning as they interact with the reading and writing process is central to this research. There are multiple perspectives of meaning making but for the purpose of this research I will focus on multiliteracies. Historically, as the world grew and developed, so did the potential knowledge base of the learner, as well as how they could acquire that knowledge. The way information was being shared and the variety in which it was being represented needed to be considered within the educational community.

In 1994 a group of leaders in literacy and education met to discuss the future of literacy teaching. They were called the New London Group (NLG) and they attempted to tackle how to teach literacy, including what needed to be taught all while keeping in mind the importance of "local community and global connectedness" (Kalantzis & Cope, 2008, p. 195). Through discussion, the NLG created a term they felt encompassed the global developments they were noticing. First, it seemed the world was becoming more culturally and linguistically diverse and the importance of that diversity was growing. Second, with the development of new technologies there were new communication methods being utilized on a global level. The term that the NLG used to encompass both shifts was *multiliteracies*. They felt this word described both "the growing significance of cultural diversity" and "the influence of new communication technologies" (Kalantzis & Cope, 2008, p. 197).

The NLG felt that while English was becoming more of a world language, it was important to find a way for the language to "cross linguistic boundaries, even within English"

(Kalantzis & Cope, 2008, p. 197). Because of the changes in the way the world was working, the influx of technology, and the increase in diversity in communities, the understanding and use of the basics of education (reading, writing, arithmetic) needed to change too. Rote memorization of facts in math moved toward focusing on reasoning and problem solving. Reading and literacy changed to stress the importance of critical analysis and how meaning is carried not only through text, but also through other modes. This was back to 'new basics' for a new and changing world (Kalantzis & Cope, 2008).

The multiliteracies framework has two sub components within it: the multilingual and the multimodal (Kalantzis & Cope, 2008). *Multilingualism* grew out of the increasing connectedness of the world. Learning by rote was no longer a successful way for a community to grow and create global citizens, and as languages crossed boundaries and technology developed, society shifted to value more than just the *power language*. Currently the power language in schools in the United States is recognized as standard American English (SAE). Multiliteracies values the backgrounds of all people. It understands that the power language, SAE, is not the only meaningful verbal communication tool. For example, bilingual students might need to share knowledge in their first language because they may feel they do not possess the proficiency to do so in SAE. Just because they cannot communicate meaning effectively through the power language in the classroom, does not discredit their knowledge base. In my experience, students struggle to communicate their understanding or convey meaning in SAE. So, students choose to communicate in Village English (a dialect of their community) or their first language so they can focus solely on meaning rather than having sentence structure, grammar, and vocabulary as an added burden.

The research in this paper focuses on the second subcomponent outlined by the NLG: multimodal representations of meaning. *Multimodalities* states that meaning can be derived through a myriad of other forms, or modes (Kalantzis & Cope, 2008). As the world developed in the 20th century, non-native English speakers were floundering in the text-heavy, rote memorization teaching styles. They were struggling in their learning of SAE to adapt to the single modality classroom. Kalantzis and Cope (2008) discuss the value of a multimodal classroom and that through all types of modes, written and other, meaning can be internalized and in turn, communicated. Further, the flexibility of the multimodal classroom to reach students at all levels, resulted in the encouragement to value all the ways learners could communicate as communication modes changed and developed (Cope & Kalantzis, 2009).

Those modes are laid out by Cope and Kalantzis (2009) and encompass seven categories: *written, oral, visual, audio, tactile, gestural and spatial*. The first, *written* has to do with writing and reading, either handwritten or from the printed page or screen. The second representation is *oral* which includes both live and recorded speech, as well as listening. *Visual* modes are still and moving pictures or images such as paintings or movies, sculpture, vistas, scenes, and perspectives. The *audio* mode encompasses music and noise as well as ambient sound, alarms and both hearing and listening. *Tactile* modes include touch, smell, taste, as well as physical contact. The *gestural* category not only includes hand, body, and facial gestures, but also dance, ceremony and other rituals. The final category defined by Cope and Kalantzis (2009) is *spatial* which includes proximity, interpersonal distance, and landscape. More examples of how these modalities might appear within a Yup'ik community and in a classroom setting can be found in Table 2.1.

Table 2.1

Examples of Modes (Cope & Kalantzis, 2009; George, 2016; Lincoln, 2016; Personal Observation)

Mode	Definition	Yup'ik Cultural Examples	Classroom Examples
Written	Modes as writing, reading.	Reading hymnals or scripture in L1.	Silent reading, creating summaries of learning.
Oral	Meaning communicated in live and recorded speech, making speech and listening to that speech.	Giving advice, listening to an elder tell traditional stories (George, 2016).	Giving a presentation on a topic.
Visual	Still and moving pictures as well as sculptures, vistas and personal perspectives.	Analyzing the tundra during a hunting trip, watching an elder speak in order to remember the story (George, 2016).	Watching a video related to a science concept.
Audio	All noise including alarms and other ambient sounds. This encompasses hearing and listening.	Hearing animals move as they are being tracked; mimicking household conversations with *inuguat* dolls (Lincoln, 2016).	Hearing signals within the classroom relating to activities such as when to stop or start working.
Tactile	Modes relating to the senses such as smell, taste and touch.	Using story knives to communicate, watching as someone uses strings to tell a story (George, 2016).	Using manipulative tools in math class, interacting with first person artefacts in social studies, conducting experiments in science.
Gestural	Body language, facial expressions as well as dance and other ceremonial acts.	Participating in cultural dance or *yuraq* (Lincoln, 2016).	Pointing to relevant information, raising hands, body language during the lesson.
Spatial	Proximity and layout of spaces including intrapersonal distance and landscape.	Hugging family members when greeting them; playing with *inuguat*, or miniature baby dolls (Lincoln, 2016).	Assessing the classroom layout and how students are seated.

The definition of multiliteracies has come to encompass the use of a variety of resources that can support readers as they go through a meaning designing process. According to Cope and

Kalantzis (2009), literacy teaching now includes not only reading, writing, speaking, listening but also the visual, audio, tactile and gestural modes. Essentially, it is valuing a learner's proficiency in a variety of modes and utilizing those literacies to help develop language.

George (2016) worked with Yugtun students and drew upon the cultural tradition of storytelling to make their learning more salient in literacy. She focused on *qanruyun*, a story that teaches what not to do, and as students listen, they watch the mouth of the storyteller to better internalize the message of the story. In this audio mode, George used the same culturally relevant text from this study, *Berry Magic* by Sloat and Huffmon (2004), to help her students be able to "connect with the story and [be] willing to participate in class, thus bridging the gap between Yup'ik ways of thinking and the English Language" (George, 2016, p. 10). George (2016) used another mode to help her students understand the target language feature (past and present tense). She taught her students how to *yaaruin* (story knife) in the mud, using pictures while telling a story using past and present tense verbs. This tactile mode allowed students to take power in their learning and their command of verb tense while showing George if they understood how to correctly use the language feature in English.

Lewison, Leland and Harste (2014) suggest teachers encourage their students to participate in *transmediation*, an idea similar to what George (2016) did. From a pedagogical perspective, *transmediation* involves having students translate their learning into another mode. The benefit, according to Lewison et al. (2014), is that within another mode, a perspective might be expanded, allowing others to draw meaning from this new resource. The forms of these modes also serve different purposes. Some, like writing, speech, imagery and music, have the purpose of representing meaning to another. Others, such as reading, listening, perspective, smell and taste, intend to represent meaning to the individual. This is important

because the mode changes the way the viewer might interact with it and make meaning from it. By taking the time to see what modes my students are utilizing most, how they are meaning making or using language (explicitly verbal, written or otherwise), I can understand how they share with each other, make meaning and make decisions. This idea will be made clearer in the next section.

Design Cycle and Meaning Making.

"The starting point for the Multiliteracies framework is the notion that knowledge and meaning are historically and socially located and produced, that they are designed artefacts" (Kalantzis & Cope, 2008, p. 203). When readers make meaning, they are analyzing and interpreting available resources (artefacts). As students interpret, they draw on internal and external resources to re-design the resource into something new (Cope & Kalantzis, 2009). They use a mediational tool like language or numbers to see patterns in the resource and help make meaning.

According to Weaver (2009), resources do not have meaning when sitting undisturbed. It is students' implementation of the mediational tools using the resources that create meaning out of the resource. People "rarely view things in the same way" and diligent use of multimodal (different) representations of the information allows all people access to meaning making and literacy (Martin, 2008, p. 67). This is related to the idea of transmediation but instead of the new mode being the evidence of learning, it is another source with which to gain the same information.

To begin understanding multiliteracies and multimodalities, it is helpful to be familiar with the design cycle (Kalantzis & Cope, 2008; Cope & Kalantzis, 2009). The design cycle is a meaning making process that explains how anyone interacts with a text, comprehends a text,

reworks a text, and the transformations that come from understanding the text and changing how the reader views the world. During this cycle, readers have access to available designs to interact with and make meaning out of (Kalantzis & Cope, 2008; Cope & Kalantzis, 2009). These available designs can be found anywhere. It might be a book from the library, a video game, a historical picture or even a song. What is important to know about available designs is that they take on different meanings depending on the learner. Available designs need to be interpreted. Healy (2008) says we get out of a text that which we are interested in; that is, we pay attention to the meanings that matter to us. The focus of one pair during collaboration may not match the focus of another pair even though they are retelling the same storybook (Healy, 2008).

During the course of this research, pairs of students were given the same set of *student created images* (drawings) and asked to put them in a sequence based on the original story that was read a few days prior. These student images are their available designs. As pairs look at the student images, they are designing what those images mean as solitary pictures and as they relate to the original story. Together the students decide the most logical interpretation of the student image and add it to their developing story sequence (re-designed). The variety of completed sequenced student created images speaks to the variety of ways one available design can be interpreted.

As students are making meaning out of these available designs, they are designing their own understanding and meaning from the available designs. Through the designing process, learners then have a re-designed product for themselves and others to interact with. In this way, readers are always actively designing. *Figure 2.1* shows an interpretation of this process. As the available design is being taken in, students immediately interpret it, entering the designing phase. As they share their design, they are presenting a redesigned artifact for others to utilize in

their own design cycle. For example, as students design, they are accessing mediational tools to understand an image, put that image into their current understanding of the material, and then present their thoughts.

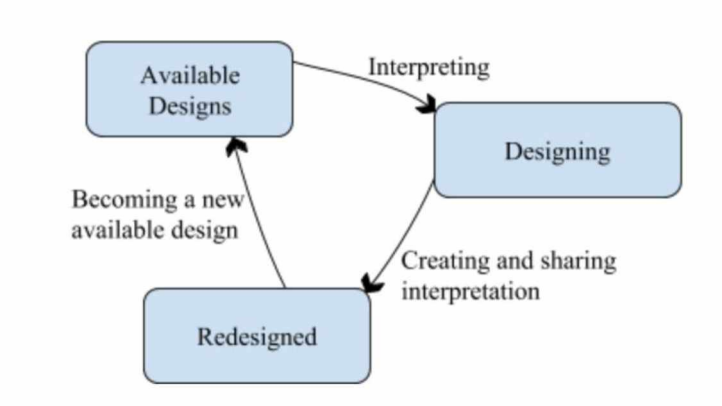

Figure 2.1 Interpretation of The Design Cycle

So, "in the life of the meaning-maker, this process of transformation is the essence of learning" (Cope & Kalantzis, 2009, p. 12). The readers in my classroom interact with available designs such as pictures and mediational tools such as their prior knowledge to communicate meaning as they work to create a re-design of an original storybook.

Modalities, Culture and Meaning Making.

Healy (2008) wrote that education had begun to put too much value in the single story of literacy and was failing to "value systems of an ever-increasing complexity of cultures and occupations" (p. 3). This idea reflects the push of the NLG to create a more diverse literacy design. *Learning by design*, an idea presented by Kalantzis and Cope (2008), urges for a push toward literacy instruction that reflects the diversity of the community of learners and the diversity of communication methods (Healy, 2008). The push for multiliteracies was also based in creating flexible learners who could easily adapt to different modes as the world changed around them (Kalantzis & Cope, 2008).

As students participate in the classroom, teachers can support their proficiency development in language skills by encouraging students to utilize their own knowledge acquired within their community and culture. Moll, Amanti, Neff and Gonzalez (1992) call this accessing *funds of knowledge* (FOK). FOK is defined by Moll et al. as "historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual well-being" (1992, p. 133). My students are still greatly influenced by their community culture and participate in traditional ways of life such as hunting, gathering berries and celebrations of success in the community. Moll et al. (1992) encourage educators to access the FOK of their students and see these knowledge bases as containing invaluable resources that could have significant potential in the classroom. To access and respect students' FOK, teachers are also respecting them as whole children. Acknowledging that, as they move through life within the classroom, their life outside of the classroom can also be of value. The strategies and lessons they learn within the larger community can be brought in and used to increase their classroom agency. Acknowledgement that the literacies of minority populations are just as diverse as westernized literacies, is a leap toward increasing student agency.

One way to do this is to use culturally relevant texts in the classroom. Keeping agency, modalities, and the idea of expanding on the single story in mind, teachers interested in the cultural diversity of their classrooms might need to investigate the idea of the types of texts they choose and the cultural connectedness their students might have to those texts. Based off of the ideas of Kalantzis and Cope (2008) as well as Healy (2008), it is important to emphasize the use, benefits, and rationale of implementing culturally appropriate texts because as Healy says, "it is important to acknowledge that each person processes knowledge in a different way" (2008, p. 9). For this reason, this research drew upon culturally relevant texts that allowed learners to

access their funds of knowledge (FOK) as an available design while approaching learning resources. Teachers can utilize available designs that mirror student life and bring their experiences into the classroom, thus openly valuing their culture and experiences.

Cope and Kalantzis (2009) developed the design cycle framework to put emphasis on drawing on student experience and the integration of those experiences into the classroom because it may be "especially easy for mainstream teachers not to notice how difficult it can be for students from a different culture to figure out how things are done" (Johnston, 2004, p. 7). Not only does a narrative of a familiar story lower student inhibitions about sharing ideas because they are more connected to the text, but it offers representations of students' lives through stories, making content more accessible and increasing engagement and desire to become an active participant in reading and literacy (Tschida, Ryan, & Ticknor, 2014).

The 'literary canon' that values the traditional literacy story with the traditional literary character "immediately eliminates people whose cultural and social context renders the classic novel of little importance in their lives" (Healy, 2008, p. 4). The curriculum my students use is reflective of many cultures but not of their own. They see characters from different parts of the world but still not from their own. By using relevant texts, my students can not only see themselves in a story with a protagonist that mirrors them, but their cultural and social context becomes relevant through the use of these texts. These culturally relevant texts value the life experiences learners bring in from their community because the event within the picture storybooks is familiar to the learners.

Conclusion

The interconnectedness of the research related to this study is apparent. Collaboration and interaction are paramount to language learning under the umbrella of SCT. Further, the use

of collaborative dialogue in realistic settings that carries meaning and purpose is essential to the development of language. The way that output can be formulated goes back to the Multiliteracies framework put out by the NLG. As different designs are made increasingly available through technology, art, culture and language, more learners have access to knowledge and power and more forms of output are created by learners as well.

The research presented in this chapter communicates the potential value that interaction, collaboration and co-construction have. It also points to the value of peer work and its contribution to learning, especially with the use of culturally responsive materials. With those ideas in mind, my research questions further developed. I began to ask myself how my own students were making meaning as they worked together and how they made meaning from each other and available resources as they collaborated on a writing activity. The following chapter lays out the research procedures and how the questions about interaction and collaborative dialogue grew and developed as I watched my students participate in collaborative writing activities.

Chapter 3: Research Methodology

This chapter focuses on the structure of teacher action research (TAR), its usefulness and its presence in my own research. Also discussed here is constructivist grounded theory (CGT) which is the framework used for the data analysis. I conclude this chapter by describing the setting and participants of this action research and the data collection process.

Research Questions

When my study began, I was very interested in interaction as an educator and a teacher of bilingual learners. My initial questions centered around writing, output and collaboration. They were written as follows:

- *What patterns emerge in written and oral output during collaborative activities?*
- *What patterns emerge when my 3rd graders negotiate for meaning during collaborative writing?*

As this study went on and as my understanding of my data developed, so did my questions. They became more focused but still revolved around collaboration and writing. My developed research questions became:

- *What happens when my students engage in collaborative writing?*
- *How do my students work together as they co-construct meaning during collaborative writing?*

These questions grew from observations of my classroom. I noticed that my students had a desire to be at school and to participate in learning, but they were struggling with expressing their thinking orally and in writing. When they worked together, however, their ideas seemed to flow more freely and there was an increased level of confidence. I wanted to find out what was

happening to create that confidence as they constructed writing together. This inquiry led to the teacher action research approach that is explained in the study design below.

Study Design

This study was conducted using teacher action research (TAR). It involved the implementation of the research structure and data collection into the school day as it was conducted by the teacher. The data were put through the iterative process of constructivist grounded theory (CGT) meant to help analyze and develop theories based on the data. Both TAR and CGT are discussed in the following sections.

Teacher action research.

Teacher action research is defined by Mills (2018) as educators conducting organized research in a learning environment to gather information about "how their particular schools operate, how they teach, and how well their students learn" (p. 29). The data collected can vary when using TAR but is ultimately a decision made based upon the nature of the research focus as well as what data samples make the most sense to help answer the research question. By using TAR, teachers partake in what Mills (2018) calls a *dialectic action research spiral* where they engage in four phases to continue to find solutions and ways to enhance their classroom experience. Teachers' decisions are guided by a question and they use organized data collection and analysis resulting in the creation of an action plan (Mills, 2018, p. 26). Table 3.1 displays the four phases of TAR as Mills (2018) discussed along with the details involved in each step to ensure that any action research plan is conducted in a well thought out and effective manner. It is important to note that the phases defined below are not linear but require the researcher to enter a cyclical process to constantly assess, analyze, interpret and inform the research process.

Table 3.1

Dialectic Action Research Steps and Details (Mills, 2018, pp. 208; 215-216)

Step in process	Details
Identify an area of focus	Researchers note a problem area in the learning environment which leads to a focus question. I identified helping my student become active writers as my area of focus.
Collect data	TAR uses multiple data types to triangulate and strengthen the claims that can be made from the data. Researchers consider ways to ensure validity and reliability within the research to increase the trustworthiness. I collected audio and video data as well as student writing samples, their sequenced pictures and kept a research journal ensure credibility and reliability.
Analyze and interpret data	Researchers look at all the data to avoid making early analytical assumptions. They follow the iterative process of reading/memo writing, describing the event, and classifying the data as it is being analyzed. I engaged in constructivist grounded theory throughout my TAR.
Develop an action plan	Researchers use what was learned in the research and take action. Action plans involve understanding the results of the research, recommended actions, who should be responsible, timelines and resources to carry out the plan. This is not a final step, however. TAR dictates you continue the process and return to investigate a new area of focus. Conducting TAR allowed me to develop the following action plan: analyzing my students collaborative processes and using that information to support their writing and understanding.

Mills (2018) says that the goal of action research is to gain "insight, [develop] reflective practice, [affect] positive changes in the school environment and [improve] student outcomes and the lives of those involved" (p. 8). TAR allows for the teacher to participate in an investigation into a question or idea that is directly relevant to that teacher's experience. Additionally, TAR allows for teachers to directly affect the lives of their students as they look more critically into their practices. As noted in Table 3.1, teacher-researchers then need to implement a data collection technique keeping triangulation, reliability and trustworthiness in mind. When the analysis process begins, researchers need to stay close to the data as they write about any ideas or events that are of particular interest to their context. In this way, they go back and forth between the research process and the data. This framework takes time but with full

participation in the cyclical nature of TAR, it allows for teachers to make informed instructional changes in their own pedagogy to increase student learning.

As with any research, teacher-researchers need to take steps to ensure the trustworthiness of their study. There are four components to trustworthiness as discussed by Mills (2018). Those four components are: *credibility, transferability, dependability* and *confirmability* and are further described in the Table 3.2 below.

Table 3.2

Components of Trustworthiness Explained (Mills, 2018, pp. 153-156)

Trustworthiness Component	Explanation
Credibility	The researcher can identify, report, deal with and overcome any difficulties or complexities within the process of the study. They can do this by increasing the study length, collecting multiple points of data like video, audio and written sample (triangulation). Increasing credibility might also mean collecting and having access to raw data from participants or in the form of audio or video files. Researchers can also participate in debriefing with a peer to help reflect on the research.
Transferability	Researcher believes that "everything they study is context bound and that the goal of the research is not to develop "truth" statements that can be generalized to larger groups of people" (Mills, 2018, p. 154). To increase the transferability of the study it should include adequate details and descriptions that would allow other interested researchers to reproduce the study. Another large component is that readers and other researchers must be able to identify with the setting if transferability is to be obtained.
Dependability	This has to do with the stability of the data. The data should have other support systems like an external examiner or other data points to help strengthen it. "Establish an audit trail. This process makes it possible for an external "auditor" (Maybe a critical friend, principal or graduate student) to examine the process of data collection, analysis, and interpretation" (Mills, 2018, p. 155).
Confirmability	The researcher acknowledges any holes or biases in the data that might affect the outcome. By using constant reflection during the data collection process and collecting many iterations of data, researchers can increase the confirmability of their study.

When conducting qualitative research, it is important to understand the difference between validity and credibility. Validity refers to the idea that something (such as a test or assessment) measures what it is intended to measure, or that the study is applicable to the participants. For example, if a test is supposed to be about understanding characters and character development, it should include content related to that topic.

As noted in Table 3.2, credibility refers to the researcher's ability to report, deal with, and overcome the complexities within the study. Ways to do this are increasing the length of the study, using triangulation with multiple data points, collecting raw data forms, and doing peer debriefing. Within the context of trustworthiness and credibility, triangulation means that the researcher is collecting, for example, field notes as well as audio and video data of the study to ensure there are many means and opportunities to capture all parts of the study. These data points along with the field notes will give a more complete picture of the study and more importantly, the events within the data. Doing this over a period of time, in conjunction with reflective conversations with a trusted peer surrounding the researcher's thoughts and curiosities about the data, allows for more data points and more active interaction with the data points, therefore increasing the meaning of the noteworthy events within the data. By collecting the raw data, researchers are allowing themselves an opportunity to continually revisit the data, consequently increasing their understanding and in turn, the credibility of their reports.

Transferability within TAR means that the researcher uses adequate details when describing the study to allow others to connect to the research. Transferability is an important component in trustworthiness according to Mills (2018). The relevance of my research focus along with the explanation of my research procedures later in the chapter will lend itself to this study being transferrable for other educators. I believe that teaching writing and providing

students with methods to gather their thinking, elaborate on their ideas, and put them on paper, is a struggle for any elementary teacher.

Dependability relates to the stability of the data that has been collected. It means that when data are analyzed, there are support systems such as another data source or an external examiner used for the purpose of accounting for any possible weaknesses in the data. The final component of trustworthiness is confirmability, meaning that any possible biases or holes in the data are presented clearly through the use of triangulation and reflexivity. Triangulation is the utilization of multiple data sources to strengthen the research and reflexivity refers to reflecting on possible biases within the study that might cause ideas or findings to be presented in a certain way. All of this is done by the researcher (Mills, 2018, p. 155).

TAR is the best choice for my approach to research because it allows me to investigate a question that is important to my life as an educator. As an educator, I want to improve the educational experience and lives of all the stakeholders involved in my classroom. For me, that means my ability to recognize, support, and affect change in my students' learning is crucial. The framework of TAR lets me do just that as I investigate and study more about my students as learners. Furthermore, TAR places value on teacher reflection – teachers can look at what has been done, what was learned and what needs to be done.

TAR is research conducted by the teacher, for the stakeholders. By implementing TAR, I am involved throughout the research process. Table 3.3 explains the characteristics of TAR according to Mills (2018) and how I see those characteristics reflected in my research. Most notably, TAR is evident in my research in that I am conducting research within my classroom relating to an area of need I see from my students. Because I am conducting the research, it is not only relevant but also more accessible to other educators.

Table 3.3

Characteristics of TAR and Relation to My Research (Mills, 2018, pp.18-22)

Characteristics of TAR according to Mills	Characteristics of TAR in My Research
Persuasive and authoritative	My research is centered around a question, the answer to which would directly impact my classroom and students. This makes the results more personal and the resulting action plan more important to use.
Relevant	By using a question created by me, I am doing research that is relevant to my practice. I am looking at a problem that I really have in my classroom. This process could provide guidance and insight for other teachers who find themselves facing the same challenges with writing in their classroom.
Allows teachers access to findings	Because I am conducting this research and involving myself in the process, I do not need to seek out an article or theory to affect change in my classroom. I have the information right in front of me and as a result have become a more productive member of my learning community.
Challenges the intractability of reform of the educational system	Implementing TAR into my classroom supports the idea that teachers can teach as well as make changes in classrooms. We can investigate areas that interest us by collecting and analyzing data within the familiarity of our classrooms to the benefit of our students.

By using TAR, I can integrate culturally responsive practices specific to my students' lives into my teaching while researching ways to improve collaboration in the classroom. Investigating collaboration of emergent bilinguals, and more specifically, Yup'ik bilinguals, cannot be effective if the research does not connect to the students' interests. By researching something that is important to the educator, the results become more meaningful so the likelihood of the teacher-researcher using the data and procedures in the future are that much higher. When a teacher decides to participate in action research, they are taking it upon themselves to make a change in both their instruction and to their practice as a whole. However,

minds outside the classroom may see this time as wasted. Mills (2018) battles this viewpoint saying:

> As teacher researchers, we are challenging the experimental researcher's view that the only credible research is that which can be generalized to a larger population. Many examples of teacher research are generalizable to other classroom settings, but the power of action research is not in its generalizability. It is in the relevance of the findings to the researcher or audience of the research. (p. 162)

Action research is not done for recognition but to improve the educational setting for all involved. The readers who will interact with the findings are doing so to better their own practice in their own classroom. Large studies with high numbers of participants done by outside researchers are less relevant here. Teachers looking at this study will be able to create lessons and teach skills that will evaluate the writing and collaborative abilities of their students because this study seeks to provide insight into questions like: When my students run into this kind of road block, what strategies do they employ to overcome it? How is the use of detail shown during collaborative writing? How do they ask for help or offer advice as they collaborate with a partner? TAR helps teachers investigate what is important to them while also respecting the integrity of the research process. Because of the personal nature of teacher action research, the way in which the data are analyzed needs to be personal as well. A data analysis process that appropriately complements the TAR framework is constructivist grounded theory.

Constructivist Grounded Theory

At its core, constructivist grounded theory (CGT) is a systematic yet flexible, cyclical process that emphasizes "theory construction rather than description or application of current

theories" (Charmaz, 2014, p. 15). In CGT the developed theories are grounded in the data through a process that utilizes coding of the data to help patterns emerge. Those codes are then grouped into themes that include more than one initial code. CGT stresses the importance of memo writing to aid in pattern detection as well. Below is a more detailed description of CGT and how it connects to the research presented in this paper.

Defining constructivist grounded theory.

To analyze the data collected from this TAR, I took a constructivist grounded theory (CGT) approach. CGT guides the researcher to put any collected data through a rigorous comparative analysis. As the researcher wades through the data, they go back and forth in an iterative process of data collection and data analysis to construct a theory answering a research question.

The goal in CGT is to develop a theoretical understanding of the data through this iterative process. Instead of using existing theories to analyze the data, theories are created based on the researcher's interpretation of the data. The process of CGT keeps the researcher actively engaged and connected to the data, allowing the researcher to create an interpretation of the data. Within this process, researchers "study *how*—and sometimes *why*—participants construct meanings and actions in specific situations" (Charmaz, 2014, p. 239).

The process of CGT.

There are many aspects of the CGT process that a researcher needs to follow in order to stay connected to the theory itself. The first step is to begin with inductive logic where the researcher starts with a range of events and "extrapolates patterns from them to form a conceptual category" (Charmaz, 2014, p. 343). Researchers using CGT analyze what happens within their data as it happens rather than looking at their data through a preconceived theme or

structure. In other words, they do not come into the data analysis process with preplanned patterns and categories.

Instead, researchers use coding to let the data do the talking as they try to develop a theoretical analysis of the data. *Figure 3.1* gives a visual representation of the process of CGT as a researcher might utilize it.

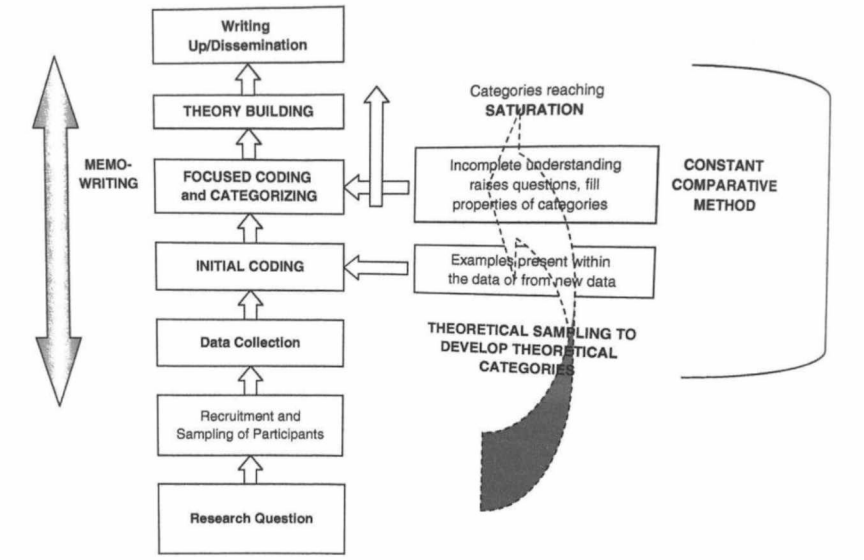

Figure 3.1 The Process of CGT according to Charmaz (2014, p. 18).

Once the data have been collected, researchers utilizing CGT begin with initial coding. At this phase, researchers interact with the data sample by defining and describing what is happening within the data. This is best done using gerunds, thus putting the action of the data at the forefront. "Unlike quantitative researchers, who apply *preconceived* categories to or codes to the data, a grounded theorist creates qualitative codes by defining what he or she sees in the data" (Charmaz, 2014, p. 324). Following initial coding researchers revisit the data to participate in what Charmaz (2014) called *focused coding*. Focused coding is where frequent and significant codes are given attention and compared back to the larger data set. All the while, a researcher participating in CGT will write memos where they collect and analyze the ideas they

are having about the data, codes and emerging categories. It is this memo writing that keeps the researcher connected to the analysis process. By requiring them to revisit the data constantly the method of CGT ensures all working theories are grounded in the patterns present in the data.

Teacher action research and CGT.

Implementing CGT within the TAR process makes sense because the two frameworks share many qualities and principles. CGT acknowledges that the researcher brings their own experiences and opinions to the process. The first step of TAR is to pick an area of focus that is meaningful to the researcher and to develop a question that will allow the teacher-researcher to investigate an event from their own experiences in the classroom. It is clear that both of these structures value the perspective of the researcher.

Both CGT and TAR are cyclical, resulting in them flowing along simultaneously with each other. With TAR, the teacher conducts research within his or her classroom, collecting and analyzing data and interpreting that data to make an informed instructional decision. CGT is the analytic process that a teacher action researcher can use within their TAR research structure to make sense of the data. The cyclic analytic process of CGT values interpretation and naming of real events, allowing an informed theory to emerge. That emerging theory from the CGT process will guide instructional decisions based on the data.

As stated above, CGT values the experience and opinions of the researcher. Similarly, TAR respects aspects of teachers' lives that may bring in subjectivity during authentic tasks. Both acknowledge the human nature of the researcher and instead of asking for unbiased analysis, it is embraced. Just as the research done within TAR starts and ends with the teacher-researcher, in CGT "the theory depends on the researcher's view; it does not and cannot stand outside it" (Charmaz, 2014, p. 239).

The value of my own action research is present in the fact that the focus and research questions come from a place of interest. CGT was ideal to integrate into my own TAR because I was starting with a question about my students. My research questions began with wondering. Fitting with the CGT process, I was interested in answering a question I could not see the path to yet. After collecting data using TAR, I began by transcribing and coding the data. To organize my initial codes, I inserted my transcriptions into a table allowing me to do line by line coding. Charmaz (2014) says that "initial coding routes your work in an analytic direction while you are in the early stages of research" (p. 136). It is a process to take to heart. At times the coding seemed unending, but I began to find extreme analytic value in the codes I created. This was especially true as I turned to a cross comparative method both within pairs of students and across pairs. The nuances of this process will be made clearer when the setting and procedures of the study are explained.

Setting

Twenty-five miles west of the area hub of Bethel, Alaska, lies Nunapitchuk, a village of around 600 residents. The community is almost completely surrounded by water, and the only way of traveling outside the village in the summertime is by boat or plane. There are no paved or dirt roads in Nunapitchuk. Instead, residents get around by a system of boardwalks that have been built by the community and that connect houses and other community buildings.

The community is on a curve of the Johnson River, which means that there is water on three sides. Nunapitchuk is also divided by that river with the original site called the Old Side on the east bank, and with the newer houses across on what is called the New Side. The public buildings (i.e. school, post office, village store, city hall) in Nunapitchuk are the main sources of income for the community and for the families who live here. These buildings are clustered on

the end of the peninsula on the Old Side with two main boardwalks; one stretching to the east and one stretching to the south. Many families also participate in subsistence activities such as hunting, fishing and gathering wood and berries.

Based on the 2010 census from City-Data.com, 95% of the families living in Nunapitchuk, AK are Yup'ik with a small percent being Caucasian or mixed race. While many of the families are originally from Nunapitchuk, there has been a fair amount of migration between villages. Families here have close ties to the coastal villages Tuntutuliak and Chefornak, and nearby tundra villages Napaskiak, Napakiak, Kasigluk and Atmautluak. According to the 2010 census, 43% of family households have five or more people. Many houses are multigenerational and house multiple families with aunts, uncles and cousins. The school enrollment is 218 students, ranging from kindergarten to 12th grade, making it one of the larger schools in the district. All of the students qualify for free breakfast and lunch.

Participants

This study was done during the spring of 2018. Paperwork was submitted to the university's Institutional Review Board (Appendix A) for approval before data collection began. Parent consent and student assent were also collected. After receiving all papers from all potential participants, 12 students and parents had given their consent to be a part of this TAR. The 12 students ranged from eight to nine-years-old. Of those students, nine were female and three were male. All of the participants were of Alaska Native descent.

The participants have had instruction in the district-approved language arts curriculum titled *StoryTown* (Harcourt, 2008). This curriculum structure emphasizes vocabulary development, spelling, and comprehension skills such as cause/effect and author's purpose. At the time of the study all students in the classroom had been exposed to partner work such as

think-pair-share where they share ideas orally with a neighbor. They have also had time to practice writing with others in pairs in an informal setting. Table 3.4 below provides an overview of participants' characteristics that became significant to know during the data analysis process. All the students participating in this study have a positive attitude about school. Overall their attendance is good, and they participate in learning activities in the classrooms.

Table 3.4

Overview of Participants

Pseudonym	Gender	Age	Teacher Observations: Literacy Strength	Teacher Observations: Literacy Weakness	Agreeability/ teamwork skills
Chrissy	F	9	Fluency, comprehension; writing organization	Conventions	Kind, Polite, works well with all peers, seen as a leader
Andrea	F	9	Fluency	Lacks detail, speed creates errors	Works well with all peers, seen as a leader
Liz	F	8	Fluency, spelling, conventions, likes to read	Comprehension and idea explanation	Patient with others, works well with all peers
Gina	F	9	Creative ideas, structure	Decoding, fluency	Likes to be in charge, can create tensions at times, wants to work well with peers
Payton	F	9	Spelling, decoding	Clarity in expression	Shares ideas freely, works well with all peers
Nellie	F	9	Oral comprehension	Reading comprehension, fluency, decoding	Equal worker, confident, works well with all peers
Jon	M	9	Fluency, comprehension, handwriting	Speed creates errors in reading out loud	Confident, takes charge, works well with most peers
Wass	M	9	Spelling, fluency	Comprehension, ability to complete work	Easygoing, agrees often, works well with all peers

The information provided above in Table 3.4 is based on teacher observations. Strengths noted are based on students' performance compared to their classmates and not based on any formal testing scale. In this table, comprehension refers to a student's comprehension of a text when they read to self and participate in a discussion with the teacher or when they participate in a read aloud. Some students have been observed having better understanding of a text when it is read aloud versus when they are asked to read it themselves. This ability typically parallels fluency and decoding skills.

Instructional Context

During this action research, I conducted the data collection in a room with 21 students. This study took place over the course of eight weeks. The bulk of my instructional time was spent in centers with my students. This means that of the 21 students in my class, at any given time during our language arts or math time I was working with four to five students in a small group on individualized needs. While I did this, the rest of the class was engaged in other activities. During Language Arts, they read to themselves, listened to readings, practiced grammar or spelling on the computer and did word work such as vocabulary or reading sight words.

During my typical instruction time I utilized children's texts within my guided center. In my classroom, this meant that a small group of students came to work with me on necessary skills like decoding, spelling, or fluency while the rest of the class was engaged in independent practice skills. During the implementation of this research, I kept this small group structure but had students grouped by personality more than ability. Over the course of the school year, my students had experience listening to or participating in reading a story out loud,

so the activities used in this research were not brand new to them. They were also familiar with using a mentor text to do responses (pictorial, written or verbal).

TAR Procedures

It is within this small group structure that I conducted my action research. Because there were 12 students approved for participation in my research, I created three groups of four students and met with one group at a time for about 20 minutes each. The groups were not created in any particular way. Due to the already implemented structure of the centers I used, Group 1 was already established in that way, and I did not consider reorganizing them. The other two groups involved adding only one person from an outside group and I made those decisions based more on participant agreeability than academic performance. Table 3.5 displays the breakdown of those small groups of four.

Table 3.5

Small group breakdown

Group Name	**Participants**	**Partner Break Down**	
Group 1	Chrissy, Andrea, Liz, Gina	Chrissy/Andrea	Liz/Gina
Group 2	Payton, Nellie, Kim, Britney	Payton/Nellie	Kim/Britney
Group 3	Jon, Wass, Steve, Natalie	Jon/Wass	Steve/Natalie

When I began my research, the first hurdle was to figure out how to organize and structure my centers while I collected data. I decided to collect data from two pairs of students at a time, essentially splitting the small groups in half when they worked on the research task. The pairs made in Group 1 were chosen based on teacher perceived reading and writing ability. Group 2 pairs were created to avoid putting cousins (Nellie and Britney) together as they had an interesting caretaker dynamic. Pairs in Group 3 were created based on language ability in that Steve and Natalie had been observed speaking in their first language, Yugtun, more often and with more comfort so I paired them together.

The other decision I made was to chunk my data collection into four cycles. Each cycle centered around four steps: reading, responding, restructuring and retelling of a picture book. Students listened to the story during the *reading* step and responded to the text by drawing pictures related to the events of the story. Students then restructured the text using copied drawings they created in the responding step. Finally, students used their restructured story to retell the story in their own words. The original books I chose for this action research were:

1. *Kumak's River* by Michael Bania (2012).
2. *Chrysanthemum* by Kevin Henkes (1991).
3. *The Day Jimmy's Boa Ate the Wash* by Trinka Hakes Noble (1980).
4. *Stellaluna* by Janell Cannon (1993).

I chose these books for two reasons. They are books that I enjoy reading to my students, but they are also books that show story elements (problem/solution, character development, cause/effect) in a clear way. The implemented language arts curriculum emphasizes story elements and I wanted to draw on that focus. I initially wanted to see how my students co-constructed meaning when asked to use different story elements such as cause/effect or character development. Upon looking at the timeline of my research and after experiencing the initial chaos of implementing this structure, I decided to use only three cycles. This meant that I needed to reduce my book list to three. I initially left off Cannon (1993). However, during the process of reading Bania (2012) to my students and seeing their engagement with the text, I moved toward finding more culturally relevant texts. The texts I finally chose to use during this research were Bania (2012), *The Hungry Giant of the Tundra* by Teri Sloat (1993), and *Berry Magic* by Terri Sloat and Betty Huffmon (2004). I believed these texts to be authentic because they depicted events from the lives of my students. All three stories pull from life in Alaskan

villages similar to their own. Additionally, the stories have events which I know my students have first-hand experience with, such as the river melting in the spring, berry picking, and playing on the tundra.

Data Collection Procedures

In the following pages I will explain the procedures, organization, and activities that were used to conduct this research. One important change to note is that while I collected data for all six pairs of students, I ended up focusing only on four pairs during the data analysis stage.

I chose to put aside data collected from Kim and Britney as well as Steve and Natalie. There were many reasons for this, the biggest being attendance and recording quality of these two pairs. Kim and Britney had great recordings but Britney had very low attendance during this time of the school year, resulting in Kim working alone or being unable to finish the activities. Because of this I felt the data did not inform my inquiry about collaboration, co-construction and writing and chose not to include this pair in my data analysis.

In the case of Steve and Natalie, the data collected were difficult to use. Both students had great attendance and together they produced good work but the audio recordings of the students were not usable. Despite my constant reminding to speak at a normal volume and practicing what that volume sounded and felt like, both Steve and Natalie whispered to each other so quietly it was almost impossible to tell from the audio recording if anyone was speaking at all. Additionally, both students can be heard speaking Yugtun, their first language, on the recordings. I am not fluent in Yugtun and am only able to translate a few words. I had anticipated my students speaking in their first language, but not to this extent. At such a low volume, at times it was also difficult to tell if they were speaking English or Yugtun. Since I did

not indicate on my IRB that I might need a translator on my committee, I am unable to use audio data collected from Steve and Natalie at this time.

Furthermore, I chose not to include data from Cycle 3 in this paper. One reason for this is I felt the amount of useful data collected from Cycles 1 and 2 sufficient enough for the purpose of this study. The other reason I excluded Cycle 3 data was due to excessive absences from my students. This resulted in having to create separate work times for pairs of students to finish their retelling of Sloat and Huffmon (2004) away from the rest of the class. Because of this, my presence was also much more noticeable for students and I believe that resulted in students not behaving as they had been in Cycles 1 and 2. Listening and watching the data for Cycle 3, I noticed how often students looked to me as opposed to their partners for confirmation or reassurance and how many times I accidentally gave that confirmation. It is my belief that Cycle 3 is not a good representation of collaborative writing compared to the other cycles.

The overall process that the pairs of students went through was consistent for each cycle. Students started with me on day one in their small group of four as I read aloud one of the books mentioned above. Through the reading of the book, I would stop a third of the way through the book. As a group, ideas and events from the first part of the story were brainstormed. I provided students with a small sheet of paper roughly the size of an index card. Then students were invited to draw a picture that they felt represented the beginning of the story. I found that brainstorming ideas helped students put a picture on paper much more efficiently. That reading, brainstorming, picture making process would continue for the middle and end of the story as well. This was done three times (once for each group of four) at the beginning of both Cycles 1 and 2. At the beginning of Cycle 3 I was fatigued from reading a book three separate times and instead presented the story to my entire class of 21 students

allowing all students to participate in the picture making but only using drawings from those 12 students involved in my research project for the next step.

Figure 3.2 and *Figure 3.3* illustrate the daily structures I used as I conducted my research. This is a structure my students were familiar with as I had been utilizing it all year for our language arts instruction. Each large circle represents a station where that small group of students would practice literacy skills such as sight words, reading or comprehension independently. Non-participant groups would do these same activities, but data were only collected from the research groups. The arrows in both figures are included only to show where the next group of students would go. Each cycle was intended to follow this structure; however, adjustments had to be made for unforeseen circumstances which will be discussed later.

Figure 3.2 depicts the center structure utilizing small groups that was implemented during the read aloud and drawing stages of the research (except for during Cycle 3). *Figure 3.3* illustrates the physical set up of the classroom when pairs began to work together to sequence and retell and write the story. The numbers 1.1 and 1.2 visible in *Figure 3.3* are only included to indicate that both pairs are from the splitting of Group 1.

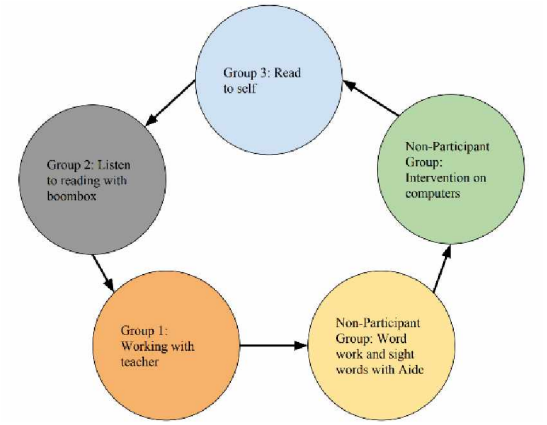

Figure 3.2 Structure during read aloud.

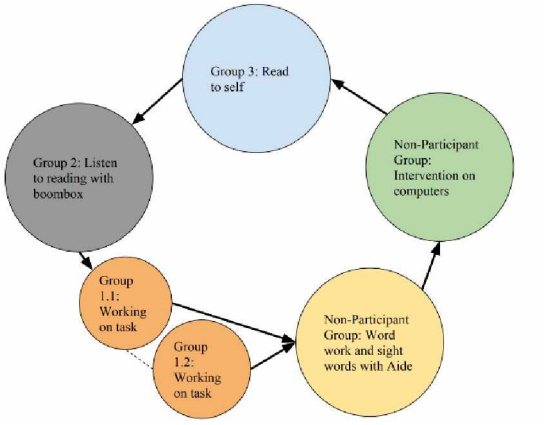

Figure 3.3 Structure during writing.

The next step was to collect all of the original student drawings and take the time to sort them outside of the school day. To do this, I laid them all out on a table and sequenced them myself. The goal was to narrow down the student drawings to a manageable number so the students could sequence the pictures and use them to retell the story. For example, during Cycle 1, of the 36 student drawings I received, I decided to use only 12. I felt that out of the drawings I received, those 12 pictures represented most of the story of Bania (2012).

After narrowing down the student drawings, I photocopied them and created sets of pictures that the students would have to sequence. The photocopying took off any clear identifier of who drew the picture but some of the quality of the photo was lost due to the type of copier I had access to. The students' next job was to work with their partners to sequence the pictures. This was the point in the cycle that is represented by *Figure 3.3*. Each pair would be in a different part of the room with an audio and video recorder and I would bounce between the two pairs and make observations in my teacher research journal.

When students felt that they had their pictures in an order that sufficiently retold the story from that Cycle, they taped the pictures together to preserve their work. Next, they got to work on writing. Students were given different colored erasable pencils and lined loose leaf paper to write on. The idea behind the colored pencils was to make it easier for me to see who was responsible for writing what. This came in handy later when going through the data as I could more clearly see students' contributions. Students were asked to take turns writing and to use the pictures to help them retell the story from the cycle as best they could. At times I encouraged pairs to reread their writing, check their picture sequence or help them work through a sequencing issue. These incidents will be discussed later in Chapter 4.

Figure 3.4 depicts the overall timeline for this research process. Not only does *Figure 3.4* show the length of each cycle, it also indicates two smaller time blocks. During one of those, Cycle 3, I integrated a book by Debby Dahl Edwardson (2003) titled *Whale Snow*. This was my first attempt at Cycle 3. I intended to read Edwardson (2003) instead of Sloat and Huffmon (2004) for Cycle 3 but two major things happened. The first was that the engagement of my students in the retelling of the story was low and they did not seem to connect with the text as much as they had with Bania (2012) and Sloat (1993). The book by Edwardson (2003) was also much more abstract in the content. While the story was about subsistence hunting, it focused on the spirit of whales, which my students seemed to know very little about. Second, this cycle got interrupted for state testing, which disrupted our research flow. Data could not be collected for one week due to the testing schedule so data collection was put on hold. Upon returning to data collection and research after testing I realized that the story I picked was not appropriate or as authentic for my participants. This resulted in choosing Sloat and Huffmon (2004) as the official book for Cycle 3.

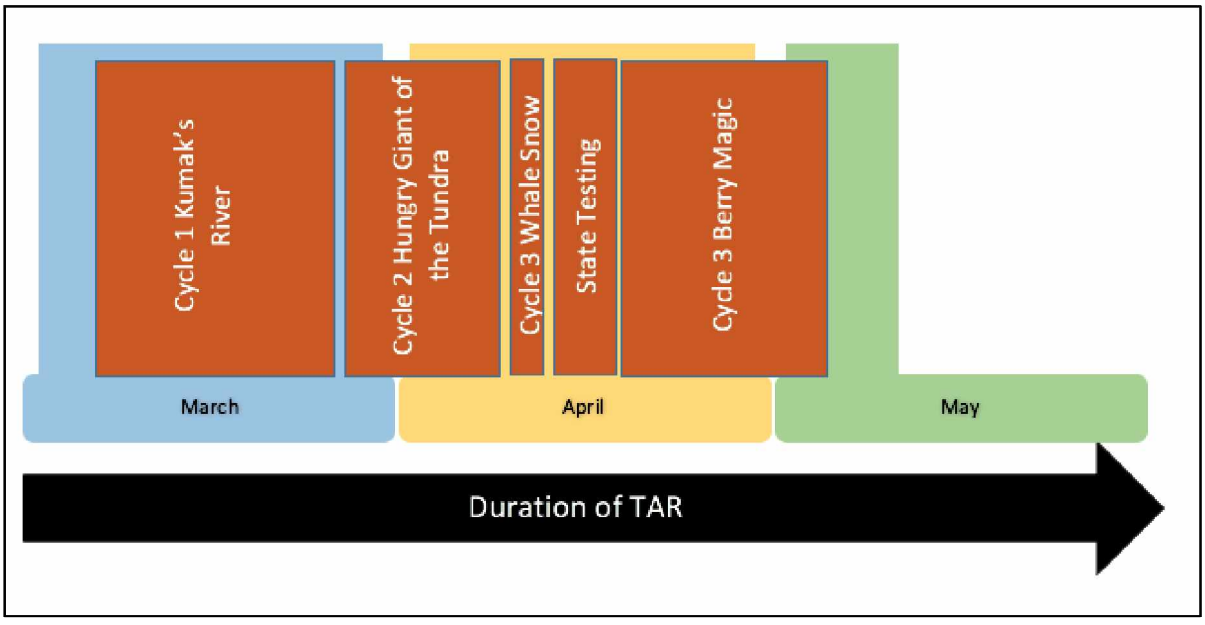

Figure 3. 4 Timeline of Cycles and Research Procedures.

All three cycles of this TAR collected the same four types of data. Those four types were audio recordings of each pair any time they were working together on the task, video recordings of the pairs working together, two types of student samples and the teacher researcher journal notes. I had access to two TASCAM audio recorders, which I placed in front of each pair while they worked in separate parts of the classroom to sequence and retell that cycle's story. The Canon digital video camera was placed near the small group table every day to capture small group work during the read aloud step of each cycle as well as to create video data of one pair while they worked. The other video recording device that was used was the teacher-researcher's iPad. The iPad was set up on a shelf near the second pair of students working. I tried to keep the iPad placement consistent but there were times when it needed to be moved due to physical space in the room. It is important to note that there were some unexpected technology issues during this research process. Most of these issues were due to the SD card in the device running out of space. Since I was bouncing between two pairs at once it was hard to catch that immediately. Most of these issues were with the audio recorders. The other data hiccups were due to absences which halted the progression of the.

The amount of each data type differs based on how long a pair of students took to complete the task. For example, Jon and Wass only have two audio recordings for Cycle 2 but Chrissy and Andrea have 3 because they needed an extra session to be able to finish their summary. All pairs produced only one picture sequence of student-made drawings of the story as well as one summary.

Now that the types of data have been discussed, it is important at this time to remember the information presented earlier on TAR. Mills (2018) goes to great lengths to not only define TAR and its usefulness but also to provide ways for teachers to defend their research and

trustworthiness of their methods. As stated before, this study took place over a period of eight weeks, connecting to Mills' (2018) argument that one way to increase the trustworthiness of action research is to utilize a longer timeline with the intention of minimizing any data distortions. The study used multiple data points (teacher journal notes, student samples, and video and audio recording). The use of multiple data points allowed the data to be compared as a way to aid in pattern detection. This is a characteristic of triangulation which Mills (2018) also notes helps make the research and data analysis credible in TAR. Researchers need to use triangulation in their data collection in order to compensate for possible weaknesses in other.

Table 3.6 displays the data collected in both type and quantity for each group that is included in the data analysis. Most audio and video recordings were of the same length or close to the same length. Because of this, I decided to include the average length of the audio or video recordings following the quantity of those recordings. I did this by adding the minute length of video recordings for a pair and dividing by the total number of recordings for the pair. If recording length was not the same length, I indicated that difference as seen in Cycle 1 for Jon and Wass. Small group data, such as video and audio recordings of the read aloud at the beginning of each cycle, were not included because the events happening during those sessions did not require students to work collaboratively in pairs. Table 3.6 lists the relevant data from pairs of students that ended up being included in this paper.

Table 3.6

Data Collected and Analyzed.

	Pair	Chrissy and Andrea	Liz and Gina	Payton and Nellie	John and Wass
Cycle 1	Video	3 recordings averaging 20 minutes each	2 recordings averaging 17 minutes each	2 recordings averaging 16 minutes each	3 recordings: 3 min, 18 min, and 2 minutes
	Audio	3 recordings averaging 20 minutes each	2 recordings averaging 17 minutes each	2 recordings averaging 17 minutes each	3 recordings. 5 min, 20 min, and 9 minutes
	Student	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures
Cycle 2	Video	2 recordings averaging 19 minutes each	2 recordings averaging 18 minutes each	2 recordings averaging 22 minutes each	2 recordings averaging 18 minutes each
	Audio	3 recordings averaging 21 minutes each	2 recordings averaging 19 minutes each	2 recordings averaging 22 minutes each	2 recordings averaging 18 minutes each
	Student	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures
Cycle 3	Video	3 recordings averaging 18 minutes each	3 recordings averaging 18 minutes each	3 recordings averaging 18 minutes each	2 recordings averaging 17 minutes each
	Audio	3 recordings. 21 min, 17 min, and 4 minutes	4 recordings averaging 16 minutes each	4 recordings averaging 18 minutes each	4 recordings 20 min, 4 min, 8 min, 16 min
	Student	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures	1 collaborative writing sample, 1 sequenced set of pictures

Within my research, I took field notes about what I observed while I watching pairs interact, as well as after a data collection session. Along with a research journal, writing samples and recordings of interactions between students were collected. Each of these data collection techniques provided details about interactions between students while the written samples provided data relating to speaking and writing patterns over time. The nature of the data

provided raw samples which Mills (2018) notes is another method to strengthen credibility and trustworthiness.

I include specific details of the data and the setting of this study as it relates to transferability according to Mills (2018). Doing so allows for other readers to see the study accurately for themselves in order to use it for their own classrooms. The descriptive notes collected in my research journal increase the trustworthiness and transferability of my research.

The video data collected in this study compensated for any information not caught by the audio recordings. Teacher journal notes also provided other details about the study. Through the use of this triangulation and my own reflexivity, confirmability was increased. The teacher journal became a great place to uncover any feelings of bias, as well as a place to document them for the study.

Conclusion

The procedures used to collect and analyze data for this study were implemented in such a way as to increase the trustworthiness of the study. This was done through collection of multiple data points, lengthening the study itself, and implementing constructivist grounded theory while analyzing the data. TAR was used because it allows teachers to become the researchers. By conducting research within the classroom setting, teachers can investigate ideas that are directly relevant to their lives while also giving them immediate access to the data and conclusions.

The research itself was conducted in a 3rd grade classroom in small groups and pairs. Students were asked to listen to a story, draw pictures and work in pairs to create a written retelling of that story using the student created pictures. In the next chapter, excerpts from student conversations and samples of their work will be analyzed and discussed. Chapter 4 will

give more insight into the initial codes and patterns found when CGT (explained in this chapter) was implemented.

Chapter 4: Data Analysis

This chapter focuses on examples from the data collected during this teacher action research and how they address my research questions. The two questions guiding this research are *What happens when my students engage in collaborative writing? How do my students work together as they co-construct meaning during collaborative writing?*

This chapter will include a brief description of the research procedures in this study. It will also include a synopsis of each storybook used in the study and an overview of the data types. The bulk of this chapter will lay out patterns I found in the data with examples and explanations of the noteworthy parts of those examples.

Procedure Review

The research procedures were laid out in Chapter 3, but a brief review will be included. Over the course of eight weeks I read culturally relevant texts to students who had given consent to participate in this study and then asked them to retell the story using a collaborative writing structure. The research was divided into three cycles with each cycle beginning with a read aloud. As students listened to the stories, they paused to draw pictures (student created images) representing events in the story. Those pictures were collected and students would later use them to retell the story and support their collaborative writing process. The students' first step was to take the student created images and in pairs try to put them in the correct order based on the original storybook. Next, the pairs took turns writing as they worked together to create sentences to retell the story the best they could in writing.

The classroom.

This action research took place in my grade three classroom at Anna Tobeluk Memorial School (ATMS) in Nunapitchuk, Alaska. The school itself is the largest building in

Nunapitchuk. ATMS is shaped like a 'U' with the elementary students located on one side, junior high and high school students on the other side, and the gym in the middle of the school. The third-grade classroom where this study took place has five student tables. Four students sit at four of the tables and the fifth table seats five students. There are three other areas of the classroom where students can sit on the floor and work in groups. There is a small group table that also doubles as my desk. During this TAR, to allow for more space for my students, I took out my desk, allowing for more areas of collaboration.

Storybook overview.

Having an understanding of the stories the students are retelling will help the reader in understanding the analysis of the noteworthy events found in this research. The storybooks that I chose for this research were picked because they reflected the lives of my student participants. *Kumak's River* by Michael Bania (2012) is about a Native Alaskan village that experiences a flood in the springtime. All of their belongings float away and they spend the day looking for their things. The second story, *The Hungry Giant of the Tundra* by Terri Sloat (1993), is a story that teaches children to listen to their parents and stay close to home. A group of children are playing on the Alaskan tundra and soon realize they are far from their village. In the story, the hungry giant sneaks up on the children and takes them away to eat them. The children use their knowledge of the tundra animals to escape and outsmart the giant.

The final story I read to the students was another book by Terri Sloat and Betty Huffmon called *Berry Magic* (2004). This story begins with a girl wishing there were more than just sour crowberries to eat and she decides to make some dolls to help solve the problem. She sews four small dolls, one blue, one red, one orange, and one rose and takes them out to the tundra. As the girl begins to dance, the dolls come alive and spread blueberries, redberries, salmonberries and

raspberries across the tundra. Everyone in the village is so happy that there are different berries to eat that they have a feast.

Collection and Analysis

I will begin by describing the data types and collection process, as well as the analysis process. Then I will explain the themes and categories that emerged through the process of data analysis. The data collected in this research were audio and video recordings of pairs of students, research journal field notes, student writing samples and student created images sequenced by each pair. After data were collected, I listened to and watched the recordings as I transcribed the dialogue between the pairs. The video was used to support the information from the transcriptions. The videos allowed me to see pictures students pointed to, how they were sitting together and other gestures they made that might help understand their meaning making and co-construction process. The student writing samples that were collected were used to confirm the content of the final sentence constructed by the pairs as they participated in collaborative dialogue during the retellings. The teacher journal was utilized as another support to strengthen and confirm what had happened in the video or audio recordings. I chose to have two pairs working on retellings at a time so during class time, I was not able to observe all pairs simultaneously, so the teacher research journal was a secondary data source instead of a primary source like the audio or video data.

After I completed the transcriptions, I created initial codes following the constructivist grounded theory (CGT) laid out by Charmaz (2014). Through the analysis process, I noticed some patterns that continued to emerge and turned those into categories for analysis. These are important to discuss before diving into the data samples. For more detailed information about the data collection and research procedures see Chapter 3.

Decision Making Events as the Focus of Analysis

Examining the data brought my attention to what kinds of decisions my students were making as they collaborated and wrote together. I noticed these decisions because of the collaborative dialogue they engaged in. Initially I called these events LREs, but these decisions gave me more information than the forms they were focusing on. These decisions gave me insight into what meaning making tools my students were focusing on as they wrote. These decisions told me if that pair of students was more focused on pictures, their own knowledge, or word choice as they rewrote the story. I have chosen to call an occurrence like this a *decision making event* (DME). Through the course of analysis, I realized that identifying the DMEs in the transcripts helped me answer both of my research questions.

I defined these DMEs as any time the pair or individual thought about what they were doing in relation to the sentence they were constructing. I noticed that most of the time these DMEs were external manifestations of a student's thought process. For example, a manifestation of the decision might be when one partner communicated their thoughts to the other or used gestures to express the idea. Other times these DMEs happened internally, and, as the researcher, I had to infer more details about the student's decision. Many types of these DMEs showed up in writing, meaning that whether the bulk of the decision making happened within the student (internal) or through dialogue with their partner (external), a decision had to be made to write something and continue the retelling of the story.

The most frequent DME I identified was related to how the students made decisions that led them towards being able to continue the writing of their story. This story continuation presented itself most frequently in their dialogue and was then transferred into their writing. A majority of the DMEs made by the participants that were relevant to the questions presented in

this research fell under the category of a *story continuation*. This is defined as any time a decision was made that allowed the retelling of the story to move forward or allowed the pair of students to create a shared understanding of the next step that then later allowed their retelling to continue. Since not every DME about story continuation can be the same, different types began to emerge and be identified. Those types are: *discussed story continuation, no discussion story continuation, input solicited story continuation, dictated story continuation,* and *transformed story continuation*. Below, *Figure 4.1* illustrates the different types of DMEs and how they are related to the decision making process and overall continuation of the written retelling the students were working on. There are two main subtypes of DMEs that I identified as important to my students' writing process: discussed story continuation and no discussion story continuation. Beneath both of those are subsets of each main DME relating to the process that DME took or the resource students used to help make that decision. Additionally, there were some other noteworthy DMEs (expressing feelings and technical decisions) that did not fit neatly into either category.

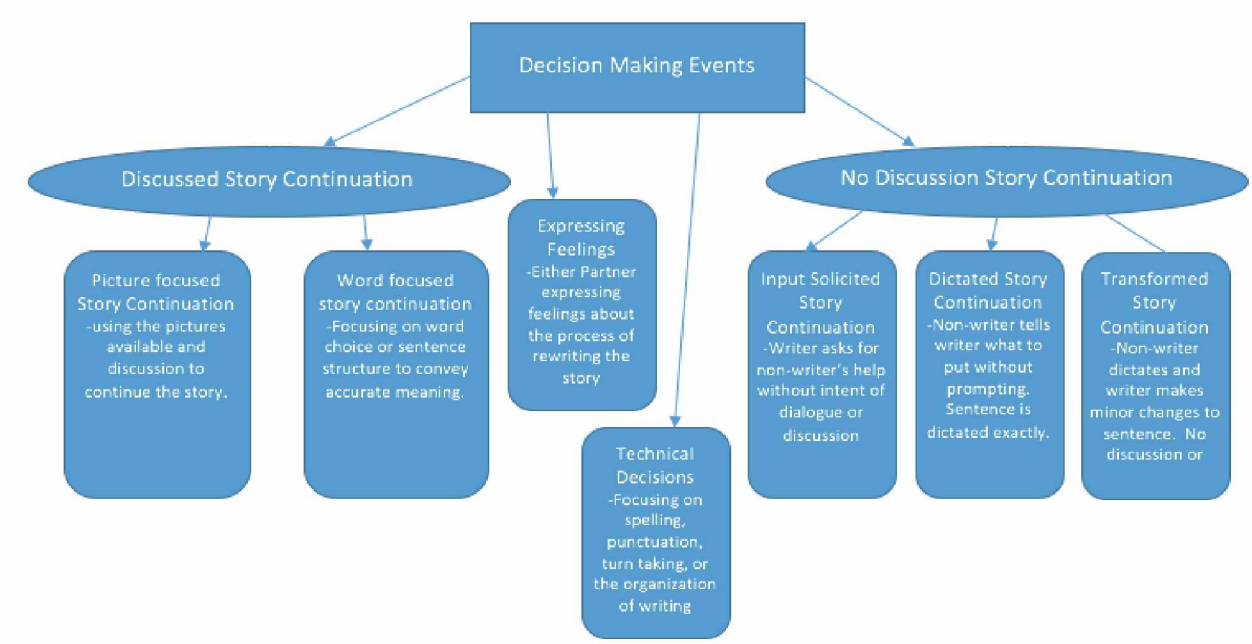

Figure 4.1 Types of Decision-Making Events.

Discussed Story Continuation.

Discussed story continuation is any time there is a discussion relating to the continuation of the story and the next sentence to write. For the purpose of these data, a discussion is any time there was an exchange of dialogue between both partners where each student spoke at least once in an effort to clarify, agree, question, or begin a dialogue. This could be when one partner rephrases the other's original utterance in search of clarification, when a specific word is discussed or when both students work more collaboratively to create the next sentence in their written retelling. Discussed story continuation can be initiated by the writer or the non-writer. It does not have to be lengthy nor do the partners have to reach an agreed upon solution. The importance of a discussed story continuation is that the partners engage in dialogue about the sentence they are trying to build and each are taking turns explaining, confirming, or building meaning about what that partner thinks should be written next. An interesting detail about the discussed story continuations found in the data was that brief utterances were used by many partners and pairs and it was other communication tools that aided in the decision making. Through my analysis of the data I found that these discussed story continuations often coincided with pairs utilizing a mediational tool. In the study, I found they relied on the use of the student created image, coded as a *picture meaning* DME, or on their own knowledge of vocabulary or of the original story, which I coded as a *word choice* DME. These types will be explained in more depth below.

Discussed story continuation events focused on picture meaning.

In the data, a *picture meaning* DME is when the pair takes time to discuss the content of the student created image. They can do this by asking their partner what the picture shows or making a statement about the picture. At times this *picture meaning* DME occurs when one

partner suggests a possible sentence and the other makes a counter statement while gesturing to the image in front of them. Because the definition of a *picture meaning* DME requires partners to use the picture as a mediational tool as they explain their idea, these DMEs seemed to only occur along with a *discussed story continuation* DME. In other words, I found that all picture meaning DMEs involved a discussion between the students on how best to continue the story as they engaged in dialogue (discussion) that helped them make meaning of the student created image. To move the retelling of the story forward, students who were collaborating and constructing a writing piece together would need to discuss the meaning of the picture they were using. This easily explains the connection between *picture meaning* DMEs and *discussed story continuation* DMEs.

In the next three examples, I will illustrate how pairs of students chose to approach their retelling using the mediational tool of the student created image. In these examples, students are discussing the continuation of the story by engaging in dialogue based on the meaning of the student created image. I have included those images for reference in the detailed analysis of the events below.

How each pair uses that image to assist in their meaning making is different across groups and even between partners. Nellie and Payton ended up utilizing the linguistic resources in the student created image in their retellings while Jon and Wass chose to focus solely on the images in that same picture and draw meaning from that and their knowledge of the story in general.

As students approached the student image as the mediational tool, they engaged in discussion about the meaning and entered the design cycle (Kalantzis and Cope, 2008), which was explained in detail in Chapter 2. This design process starts with an available design (i.e. a

picture, sentence, story, song, etc.) and as readers interact with that available design, they are creating their own meaning from it (designing) and they then display that understanding as a new (redesigned) representation for others to interact with. This idea was applied but adapted to fit better with the data in this study. As students engaged with the student created image their design process became a decision-making process. Within this decision-making process, they used the student created image as a mediational tool rather than an available design as they made meaning that is most useful to continue the story. Their conversation focused and was supported by the content (modes) within the student image. By deciphering the meaning of the picture, pairs continued to engage with this mediational tool as a mode for meaning making. Because of the cyclical process of this meaning making, it is impossible to discuss the available design, discussion continuation and conversational focus (designing) as separate pieces. They work together and continue to work together to convey meaning as students interact with the text and create their written retelling of the story, which then becomes the redesigned.

Nellie and Payton: Shout.

This first event I am discussing involves Nellie and Payton. The event begins with Nellie and Payton talking about where they are in their sequence as they retell the story of *Kumak's River* (Bania, 2012). The video data for this event show both girls leaning into each other and looking at the student-created images in front of them. Nellie is the writer in this event. In line 165 Nellie points to a picture and asks if they have already done the picture she is pointing to. Payton leans even closer to get a look at the picture that Nellie is pointing to before she confirms her partner's question. Once that has been confirmed, Nellie moves to the next picture (*Figure 4.2*) and again solicits input. Excerpt 4.1 displays the dialogue Nellie and Payton engage in as they analyze the student-created image and collaborate in writing.

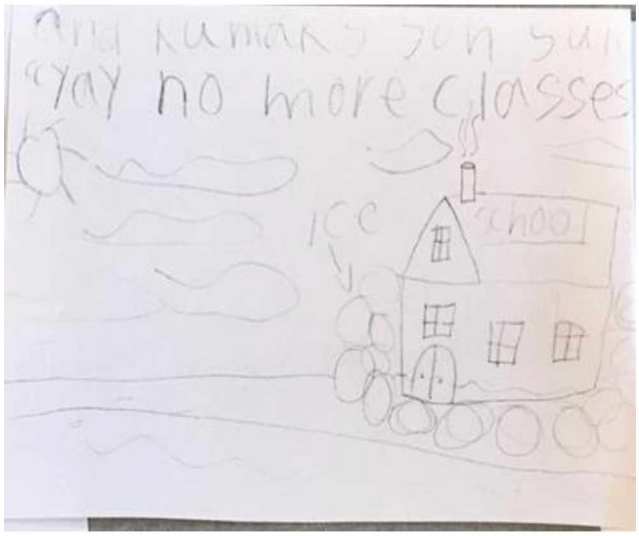

Figure 4. 2 Nellie Payton No More Class.

Excerpt 4.1

Nellie and Payton: Shout

Line #	Transcription	DME Occurrences
163	N: whose turn	
164	P: we're doi-	
165	N: where are we already?	*Pointing to student image*
166	P: yeah	*leaning to look*
167	N: what is this	*Using the picture as a resource; discussing continuation; focusing on picture meaning*
168	P: uuuh the flood and Kumaks?	
169	N: [the flood] the flood let the-	
170	P: the kum- and kumaks son shout yay no more s-classes today	
171	N: k-u-m-a- kumaks –s son how do you spell shouted	
172	lines 172-175	*Focusing on spelling*
176	P: o-u l-e-d…e-d…no classes today	*Focusing on word choice*
177	N: no c- wait me write em (small)	
178	P: class only	
187	lines 179-198	*Focusing on spelling*
190	P: period nananana oh	

The reason I labeled this a *discussed story continuation* is because of the exchange between Payton and Nellie. Payton initially looked at the picture with Nellie and focused on the

symbols within the drawing itself. The meaning the girls gain from the student image changes as they spend more time interacting with it. This change of meaning through interaction with the picture as a resource is one of the reasons I labeled this event as *discussed story continuation focusing on pictures.* This is evident because of what happened between lines 168-170. Nellie uses the picture to engage herself and her partner in dialogue to continue their written retelling of the story.

To begin, Nellie solicits input in line 167, and Payton responds in line 168 with her initial interpretation. First, Payton offers the words "the flood" but does not continue to create a coherent sentence for Nellie. It seems like she might be testing out ideas for the sentence. Nellie tries to work Payton's ideas into the beginning of a sentence in line 169 showing that she agrees with Payton's interpretation of the picture resource. Both girls are gaining understanding and making decisions about what to write based on their interpretation of the student-created image.

Payton's initial utterance is about the flood from the story, but she quickly changes her thinking in line 170 as she spends more time looking at the picture. Payton realized that there are words on the picture and instead uses those to create the sentence she eventually shares with Nellie. The words on the picture say *and Kumak's son said, "yay no more classes"*. What is also interesting about this utterance is that Payton uses the meaning from the available words (linguistic mode) but reworks them into a sentence that makes sense to her (designing). The sentence she comes up with and shares with Nellie is "Kumak's son shout yay no more classes today" (redesign).

The way that Payton is interacting with the modes in the student created image is completely different from the way Nellie is using them. Nellie is focused on the picture itself and the symbols and figures within it. Payton draws her meaning initially in the same way but

soon changes to focus on the linguistic features of the student image. The picture shows the school building in the story being blocked by the ice that comes in from the river. In line 169, Nellie begins sharing her idea which seems to utilize some of Payton's ideas as well.

Nellie is engaged in this process that is happening on line 170 and following along with her eyes and points at the words with her pencil. She seems to adopt Payton's technique of utilizing the semiotic resource in front of them. When Nellie starts to write, she turns to her partner to engage her in the writing process in line 171. Both the verbal cue for help and the physical turn helps communicate with Payton and get them both equally involved in the work. A copy of Nellie and Payton's written retelling as well as the full transcription from this event is available in Appendix B.

Interpretation, reflection and questions.

By working together, Nellie and Payton were able to experience the entirety of the mediational tool in front of them. The way they made meaning from the student created image can tell a lot about each student as a learner. Nellie was drawn to the symbols and spatial set up of the student created image. This lets me know that she might make more meaning with visual modes like art and sculptures. Payton initially made meaning the same way as Nellie but as she spent more time with the student image, she noticed other types of modes like the linguistic aspects of the image (written words). Alone, Nellie might not have made meaning from the linguistic parts of the student image.

Jon and Wass: Smell the giant.

Jon and Wass are working on their written retelling of Sloat (1993) and here they spend time analyzing the student created image, using it as a tool to support their explanation and drawing on their memory of the read aloud as they discuss what to write next. The sentence

written in this event, which can be seen in Appendix C, was the second sentence created for Cycle 2. This sentence is written by Wass. *Figures 4.3* and *4.4* show what Jon and Wass had seen from the original storybook and how they compare to the student created image in *Figure 4.5*. The similarities that are important to know between the text picture and the student image are that there is a breath line from the giant to the kid. In the storybook, the giant is supposed to have stinky breath that the children in the storybook can smell.

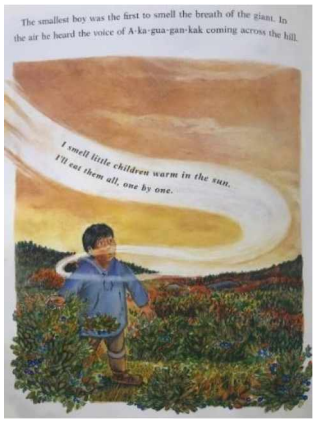

Figure 4.3 Sloat (1993, p. 2).

Figure 4.4 Sloat (1993, p. 8).

Figure 4.5 Jon and Wass Smell the Giant.

Excerpt 4.2

Jon and Wass: Smell the Giant

Line #	Transcription	DME Occurrences
43	J: umm the giant smelled the kids	Continuing retelling
44	W: this one *pointing to child in picture*	*Using picture*
45	J: [look] the giant smelled the kids	
46	W: this one smelled the giant *pointing to child in the picture*	*Discussing continuation*
47	J: the kids smelled the giant…the giant	
48	W: kid smell the	

The mediational tool utilized by the boys in this event is the picture. They are using this visual resource to help as they are involved in a *discussing continuation* DME. When looking at the student image, Jon gains one meaning while Wass comes up with another. In this event, it was helpful if the students also drew on their background knowledge of the story to help

understand *Figure 4. 5* because it does not have clear detail on which way the breath is going. It is clear in line 43 that the meaning Jon made from the image was that the giant smelled the kids. Jon was not drawing on his background knowledge of the story. Because the task was to retell the storybook (Sloat, 1993), and the reading of that storybook was a shared experience, Wass was able to help his partner use the visual resource effectively (focusing on picture DME). In an effort to clarify for Jon, Wass directs Jon's attention to the picture in question by pointing to *Figure 4.5* and telling him it is "this one" in line 44. After negotiation, Wass was able to get Jon to understand that it was the kids who smelled the giant. The back and forth between the boys as Wass attempts to communicate the meaning of the picture to his partner makes this event a *discussed story continuation focusing on the picture*.

Another noteworthy detail in this event is that after Jon listens to Wass, he uses Wass's utterance in line 46 to help co-construct a sentence that is both accurate and clear. Additionally, Jon helped create a more detailed sentence which can be seen in the boys' written retelling along with their logical placement of *Figure 4.5* in the sequencing (Appendix C). I think the other benefit of this event is that Wass was the writer during this interaction. It speaks a lot to the type of person he is that he did not write his sentence without making sure his partner understood what was happening.

Interpretation, reflection and questions.

By being communicative, Wass gave himself and his partner an opportunity to construct a better sentence. This event shows that collaborative activities can increase accuracy if they are structured well enough and allow for students to freely communicate between each other. Jon might have written an incorrect sentence if he had not been working with Wass.

Nellie and Payton: Picking berries.

This event starts off with Payton having just finished writing the previous sentence and the girls are now using *Figure 4.6* as they continue their retelling. Payton puts down her pencil and waits for Nellie to begin her turn as the writer. Here the girls have begun the retelling of Sloat (1993). They have spent most of this work session organizing pictures into the correct sequence. Nellie does not start her turn right away and instead is looking off into the classroom. To get her attention, Payton tells Nellie to hurry up and waves her hands as a signal to hurry.

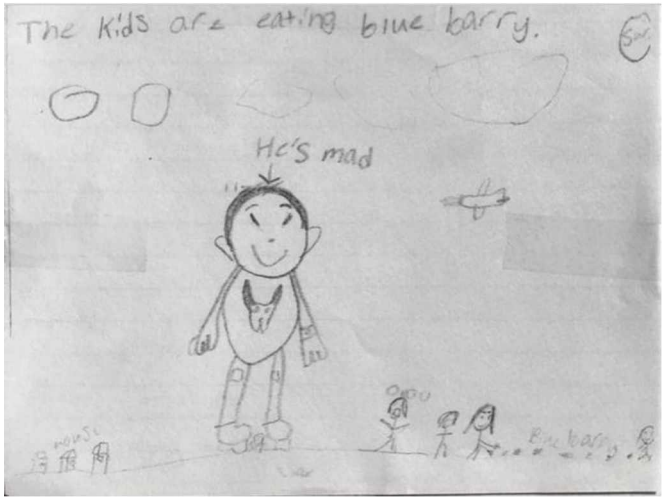

Figure 4.6 Nellie and Payton: Picking Berries.

Excerpt 4.3

Nellie and Payton: Picking Berries

Line #	Transcription	DME Occurrences
355	P: okay..Hurry up before	
356	N: what this doing	*Using picture; discussing continuation; focusing on picture meaning*
357	P: um	
358	N: the kid were eat-	
359	P: the giants mad?	
360	N: mm em	
361	P: and a	
362	N: the-	
363	P: kids ran away	
364	N: not they're picking blue berries	

In this event, Payton and Nellie spent a significant amount of time utilizing the student created image as their mediational tool. The *student created image* they are looking at shows a large person, presumably the giant from the story, standing next to smaller people. This image also shows houses, berries, clouds and even a bird. Some parts of this picture were labeled by the artist. The giant has an arrow above him and words that say *He's mad* while the houses in the background have *house* written above them and the blueberries also have a label that reads: *blue barry*. At the top of the picture the artist wrote a caption that says *The kids are eating blue barry.* In line 356, Nellie points directly to the picture to draw both girls to using the linguistic mode in the student created image to make meaning as she says "what this doing". This action makes this event a *picture meaning* DME. The girls continue to exchange interpretations of the mediational tool with Nellie offering a possible sentence in line 358 saying 'the kids were eat'. It is unclear if Nellie is reading the caption at the top of the image. Payton seems to be engaging with linguistic modes too because in line 359, she says 'he's mad' and points to the student image as well. As the girls spend more time engaging with the image, they both notice details that they consider meaningful and declarative of what that picture means for their retelling.

Both girls focused on linguistic resources within the picture to make meaning but chose different types of linguistic representation. Nellie chose what was essentially a caption (*the kids are eating blue barry*), which was a more surface level feature than her partner. Payton chose words that were embedded in the picture like labels and then tried to use her knowledge of the original storybook and inferencing to create a sentence they could put in their retelling. Nellie's utterance in line 364 first disagrees with Payton's ideas and then offers a sentence that is different in structure from what is on the picture but similar in meaning. In this line Nellie says

"not they're picking berries". For the final sentence however, Nellie can be seen utilizing the mode (linguistic) and copying directly from the picture in front of her.

As the girls are working through their understanding of the picture, they are participating in collaborative dialogue that results in a new sentence (written as: *the kids are eating blue barry*) for their retelling. The evidence that the girls are freely discussing ideas verbally and trying things out makes this event noteworthy as an example of a DME that is a *discussed story continuation focusing on picture meaning*. From lines 356-364 both girls are involved in this discussion and are offering ideas and suggestions about what they are gaining from the student created image.

This interaction is interesting because Payton continued to offer Nellie ideas as she interpreted the picture and pulled meaning out of it. Nellie did not immediately discount Payton's suggestions either. Instead, she listened to her partner, but she communicated to Payton that she did disagree. Payton watches during this time, leaning over to see what Nellie is doing and trying to offer support. After this event, there is a moment where Payton realizes that Nellie is copying from the picture because instead of offering words from Nellie's utterance in line 364, Payton begins to look at the student created picture and help Nellie finish words like in lines 369 and 371 (see Appendix D). Even with the linguistic mode in front of them, the sentence that is created is still representative of the girls' interpretation of the student created image while also reflecting how they accessed their own FOK about picking berries in their own community.

Interpretation, reflection and questions.

I wonder what Nellie would have written if there had not been any linguistic tools available on the student image? It makes sense to me that even though Nellie's spoken sentence was grammatically and semantically acceptable that she would lean back on the resources in

front of her and utilize the linguistic resources on the student created image. I think that copying is a natural tactic for students. This behavior also tells me that she might see her original utterance from Line 364 and the linguistic resource from the student image as having similar meanings. Payton had some great ideas as she made meaning from the mediational tool. How did the girls decide, without discussing it, which idea was correct? Did they decide to write Nellie's utterance from line 364 because it is displayed similarly to a caption? Again, what if this linguistic resource was not available? How would they have made meaning from the student image?

Discussed story continuation focused on word choice.

The second notable DME present in the data are *word choice* DMEs. Like the *picture meaning* DME described above, a *word choice* DME coincides with a discussion. This is why while going through the data I saw it alongside a *discussed story continuation* DME every time. When discussing word choice, partners spend some of their negotiating time focused on their choice of words. Sometimes those explanations are in depth or there is a pointed response by one partner. Other times the sentence being constructed is simply reworded by one partner to utilize the word they think is most fitting. Within the data it was seen that students could focus on vocabulary choice, leading their written retelling to be more accurate or descriptive. Students might also focus on the grammar of the word such as subject verb agreement. For example, in the sentence *the kids is going to play outside*, conversation might be focused on the verb *is* and its agreement with the plural subject *kids*. To move the story forward with retelling, students who are collaborating and constructing a writing piece together would ideally spend time choosing words that express the meaning they are trying to convey most accurately, as well as work to create grammatically accurate sentences.

As shown in the previous section, any sort of discussion about meaning as it pertains to the continuation of the retelling is immediately labeled a *discussing continuation* DME. The following four examples demonstrate how pairs were discussing story continuation while focusing on word choice. Two of these examples, Liz and Gina, and Chrissy and Andrea, center around a conversation that could have easily lacked discussion or any collaborative dialogue. These two pairs spent more time dictating or working alone during this study. It was these brief interactions about word meaning that turned the following events into *discussed story continuation* DMEs. Nellie and Payton, Chrissy and Andrea, and Jon and Wass utilized the student created image as their mediating resource, but conversation on how to continue their writing centered around word choice. Through this analysis, I discovered that pairs could choose not to utilize the student image as they continued the retelling but still participate in dialogue as they discussed word choice. Such is the case with Liz and Gina.

The examples I chose to include illustrate a range of approaches to word choice discussion. All of the discussions moved the retelling forward and some added a level of detail to the writing as a result of the co-construction and collaborative dialogue. I have included storybook images as well as student created images where I felt would aid in the understanding of the student dialogue and overall analysis.

Liz and Gina: Looking for dogs.

This event occurs about halfway through the girls' written retelling of the story by Bania (2012) in Cycle 1. During this event, the girls do not point or interact with the student created images at all. The mediational tool I think they are engaging with the most is the sentence they just wrote which said *And the dogs were gone*. This is helpful to know later in the analysis and the full written retelling from this cycle is available in Appendix E. Throughout the

process of Cycle 1 the girls rarely pointed or spent time clearly looking at the student created images they sequenced. Instead, it seems that they chose to use their background knowledge of the original storybook to complete the retelling. During the course of the writing cycles, as Liz and Gina worked, they typically talked to themselves and did not use each other for support or ideas. This event is different. In this event they start to support each other and through teacher encouragement, begin to utilize each other for ideas.

Excerpt 4.4

Liz and Gina: Looking for Dogs

Line #	**Transcription**	**DME Occurrences**
229	L: ff-fo er	*writing*
230	G: [for] their dog	
231	L: [look]ing	*writing*
232	G: look now we do this one	
233	L: looking	*Reading what she wrote*
234	G: (inaudible)	
235	L: looking for	*Discussing word choice*
236	G: dog	
237	L: thhhh look- I forgot	
238	T: ask ask Gina she might know why don't you why don't you reread the sentence	
239	G: [for]	
240	L: aaah ahh	
241	G: and they were and they were looking for the dog	
242	L: [and they were looking]	
243	L: gina's [sick] can we sharpen this	
244	G: dogs..and	

Liz is the writer during this event and does not share her thinking with her partner and begins to write. Liz's utterances in lines 229 and 231 seem to be for herself rather than for the benefit of her partner. Gina does not ask Liz what she is going to write or ask her to share her ideas.

In the beginning of this event it does not seem as though Gina and Liz will make decisions about the story together. But as Liz is writing, Gina offers her the word "dog" in line 236 but it is ignored by her partner. Realizing she has come to a hurdle, Liz looks to me for help remembering what she should write next. With my help in line 238, Liz is reminded that she has a partner to lean on if she needs ideas. When this is brought to Liz's attention, she looks at her partner to communicate that she needs help remembering what to write. She does not say anything but only looks to Gina. It is not clear how Gina is able to figure out that Liz was still talking about the dogs in this section. It is my guess that Gina is taking cues from the previous sentence to guess that Liz is still writing about the dogs since neither girl has interacted with the student created images. They have only moved the student created images around on the table as they have been lying on them.

Even though they had less collaborative dialogue than other groups, Liz could have disagreed with Gina's word suggestion in line 241. Because there was an opportunity for disagreement or discussion, these few lines are enough to show that this collaboration is discussing word choice. Gina is the only one who says *dog* out loud during this part of the retelling. She had just written it in the previous sentence making her the perfect support system for Liz. Because Gina offered a word Liz had not yet said or written, I labeled this DME *discussed story continuation focusing on word choice*. This is the first time in Cycle 1 that Liz and Gina are involved in any kind of DME that I can label a discussion.

Interpretation, reflection and questions.

This event shows growth in both girls from where they were at the beginning of this retelling. At the beginning they argued more often and the tone of voice they used seemed pointed and harsh. Even though I was brought into the fold of this event as a possible resource

for support, I encouraged Liz to use Gina as a resource instead. I think by staying out of the discussion I was able to remind Liz that her partner was useful. Through working together, they realized that each person has something to bring to the table. A lot of the evidence of the girls working together is seen best in the video data indicating the power of eye-contact and gestures in the world of communicating meaning. Liz might have wasted a lot of time sitting and thinking about what she wanted to write but having a partner to help makes a difference. The next step for these girls might be to learn how to share ideas beforehand so sentences can be constructed in a more cohesive way.

Jon and Wass: Ice block the school.

This is one of Jon and Wass's first notable DMEs of the study. In this event they are utilizing the student created picture (*Figure 4.7*) as one mediational tool as they retell the story. The full sequence of the student created images and the boys' written retelling are in Appendix F. This image was used previously by Nellie and Payton but in that event the girls utilized the image in a different way, focusing on the linguistic resources within the student created image. Jon and Wass seemed to completely discard the text on the picture and focused solely on the pictorial part of the student image. This event was difficult to categorize because the boys are using much more than word choice in these few lines of dialogue. They are also using their background knowledge of the story as well as focusing on the picture to help continue the story. I finally chose to categorize this as discussed story continuation focusing on word choice because I felt the most notable meaning making happened about words rather than the interpretation of the student created image.

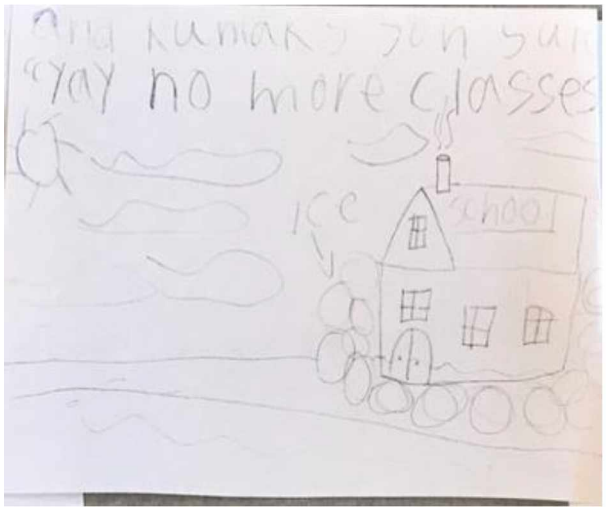

Figure 4.7 Jon and Wass: Ice Block the School.

Excerpt 4.5

Jon and Wass: Ice Block the School

Line #	Transcription	DME Occurrences
120	J: the ice covered the school…what is that	*Continuing story; soliciting input; pointing to student image*
121	W: ice	*Providing input*
122	W: block..block the school the ice block the school not cover	*Offering alternative word*
123	J: wait	*Stopping partner*
124	W: how do we spell blocked	*Soliciting input from teacher*

In this event, Jon is writing and analyzing the student created image. He begins by explaining what is happening in the picture with the statement "the ice block the school". This is what he begins to write as he works to continue the story. Jon pauses to solicit input from Wass about figures in the student created image. Wass responds that he thinks the circles that Jon is asking about are pieces of ice. The original story has the river breaking up and the ice flows into the village and blocks the community buildings.

Jon continues to write what he feels is the best sentence to continue the story as Wass watches. Suddenly Wass starts talking again in line 122 because he has an alternative sentence. What is interesting about this interaction is that Wass says the word 'block' as an alternative to

the word 'cover' and also repeats the sentence with the new word. Wass is trying to communicate that 'block' is a more accurate word to use instead of the original choice of 'cover'. Jon seems to understand what Wass means without needing him to go into more detail. Jon shows that he agreed with his partner by pausing his writing and analyzing the sentence. He also communicates to his partner to wait in line 123. When I was observing this interaction it was clear that Jon was not trying to slow his partner down but that he needed to pause the dialogue so he could think. Wass is watching his partner hesitate to spell 'block' and turns to me for support.

The way that Wass supports his partner in this event is what makes it interesting. Wass helped Jon decode the student image when Jon asked. Wass also offered a more accurate word when Jon was writing and he tried to get help when he felt his partner was struggling. The collaborative nature of this interaction is encouraging to see as both partners contributed and the non-writing partner was not simply a bystander but an active participant in the writing process.

Interpretation, reflection and questions.

This event is a great example of peer support. Jon created a perfectly appropriate sentence but Wass helped him increase the clarity of it by using a more descriptive word. This is something I do not think Jon could have done alone. It makes me wonder about vocabulary use in collaborative writing. If Wass is naturally offering more descriptive vocabulary, what would have been created if I had asked them to focus on the use of vivid words and details?

Chrissy and Andrea: Dogs' rope broke.

Chrissy and Andrea spent a lot of time dictating to each other in all three data collection cycles. In the data, *dictating* means that one partner is saying the sentence they feel should be written while the other writes without engaging in any DMEs. Most of the time Chrissy was

dictating to Andrea. In this event, Chrissy is still dictating but there is also a brief focus on word choice as Andrea is writing. The girls are about halfway through their written retelling of Bania (2012) in Cycle 1. This event begins with Andrea finding their place in the student created images in line 139. Chrissy is focused on a mistake she made in her writing. I chose to remove lines 144-154 because they did not contribute to the word choice DME that is the focus of this event and did not affect the analytical outcome of this event. There were many other interesting aspects of those lines of dialogue however, and to see them, refer to Appendix G.

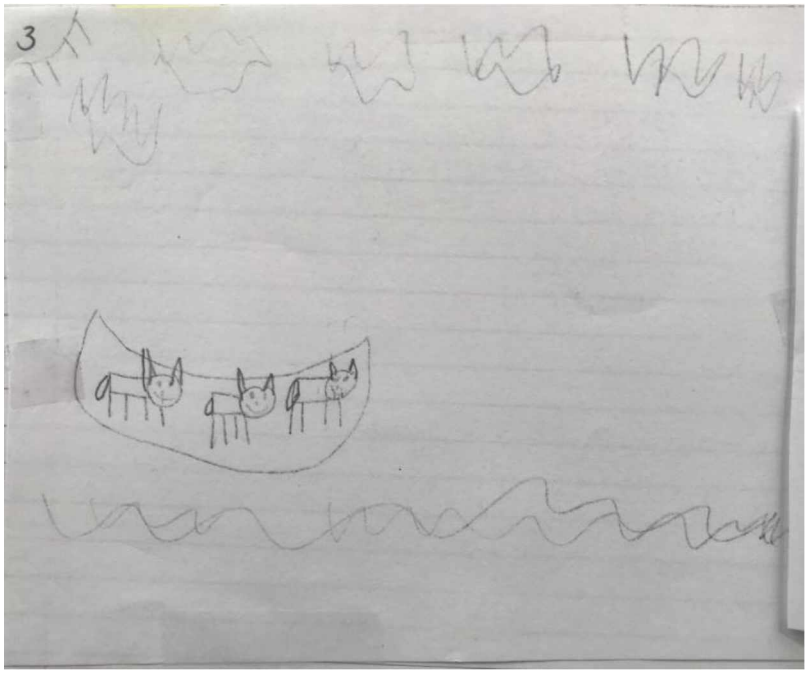

Figure 4.8 Chrissy and Andrea: Dogs' Rope Broke.

Excerpt 4.6

Chrissy and Andrea: Dogs' Rope Broke

Line #	Transcription	DME Occurrences
139	A: now we're on this one	*Finding place in writing*
140	C: I [shoulda] fixed it a while ago what we had [?]	*Taking ownership/referring to past*
141	A: the	*Giving word; starting continuation; writing*
142	C: and after the rope broke the rope broke and then after the the dogs floated away	*Offering sentence for P to write*
143	A: huh what did you say	*asking for clarification*
	Lines 144 to 154	
155	A: and the boats rope broke	*repeating sentence from line 142*
156	C: k	*Accepting P alternative sentence*
157	A: broke and the rope broke	*Repeating/echoing*
158	C: and the dogs	*Finishing sentence*
159	A: and the dogs	*Checking/confirming word choice*
160	C: dogs was float away	*Agreeing with P word choice*
161	A: were was was	*Continuing sentence/writing sentence/reading sentence?*
162	C: Okay was	*Offering alternative word*
163	A: and the rope broke then the dogs were dogs was dogs was [chuckle]	*Accepting alternative*
164	C: how bout were	*Accepting alternative*
165	A: the dogs was	*Spelling 'were' for P*
166	C: w-e-r-e	*Writing 'were'*
167	A: were	*Dictating sentence*
168	C: floating	*Sounding out 'floating'*
169	A: oo aa ting away	*Making a plan/ directing P*

This event involved a lot of dictating and repeating by Chrissy and Andrea. The original sentence spoken by Chrissy in line 142 gets reworked during this event and is finally written as *and the rope broke and the dogs were floating away*. What makes this event noteworthy and a great example of the value of collaborative work is what happens between lines 158 and 167. Here Chrissy and Andrea do some great collaborative writing.

Chrissy begins on line 158 with her dictation of the sentence she thinks Andrea should be writing. Up until this point, Andrea has been repeating and writing what Chrissy has been

saying. In line 160, Andrea has written what she remembers Chrissy saying and Chrissy leans over to read what was written. At this time, it is unclear what exactly has been written on the paper but based on the conversation that follows, and the available data, it seems as though Chrissy reads "dogs was" while adding the next part "float away" in line 160. In the audio recording, Chrissy puts stress on *was* almost as if she is questioning the use of that form. To respond, Andrea pauses, and repeats *were* and *was* at line 161 almost to test the validity of Chrissy's question as to whether or not there is something wrong with what was written. Andrea then repeats 'was' stressing it as Chrissy had, possibly to indicate that she believes using *was* is correct. In line 162 Chrissy accepts the use of the word *was* and is ready to move on. Andrea then rereads out loud the entire sentence thus far in line 163. Andrea is reading what is written and instinctively she seems to want to say 'were' but realizes she wrote 'was' and laughs possibly because she knows it is incorrect. Chrissy hears this grammatical error again and takes this opportunity to pointedly suggest the use of *were* in line 164.

What is noteworthy in this event is that Andrea was actually the first of the pair to say *were* within this event even though Chrissy seemed to be the first to point out the grammatical error back in line 160. It is unclear if either girl knew who had suggested what but they both spent time negotiating the grammar of the sentence both separately and together.

Interpretation, reflection and questions.

This event encapsulates what I originally had envisioned might happen when my students began their collaborative writing journey. Grammar and verb use are being paid attention to by this pair. Andrea used the incorrect form and I wonder if one of the only reasons it is caught is because Chrissy rereads her partner's sentence aloud and hears the mistake. Oftentimes I find that students make these small grammatical mistakes but catch them

when they read aloud. By working in pairs, Andrea was made aware of this gap in her understanding only because her partner pointed it out. Because of the set-up of the activity and the ability of her peer, Andrea was provided with an opportunity to develop or become more aware of a language feature. As a teacher researcher, this is what I was hoping for. One of the benefits of interaction is that learners can work outside of their current knowledge base if they are scaffolded correctly within the SCT framework.

Nellie and Payton: On the sand.

This event is the first time Nellie and Payton dive into retelling the story of *Kumak's River* by Michael Bania (2002) through writing. Before this, Nellie and Payton have sequenced the 12 pictures they were given that tell the story and have spent time discussing who will go first. Nellie points to the first picture (*Figure 4.9*) in their created sequence which shows people, houses, and clouds. There are four houses on stilts and 16 people in the picture. The original student's drawing shows these people very clearly. The copy that Nellie and Payton saw did not come out as dark and ended up cutting off some of the people on the bottom of the drawing. The small circled *1* that is visible in the top left corner of the picture was written by me for the purposes of keeping Nellie and Payton's sequencing in order. *Figure 4.10* is included for a comparison of what the girls saw in the original storybook to what they were seeing in the student created image.

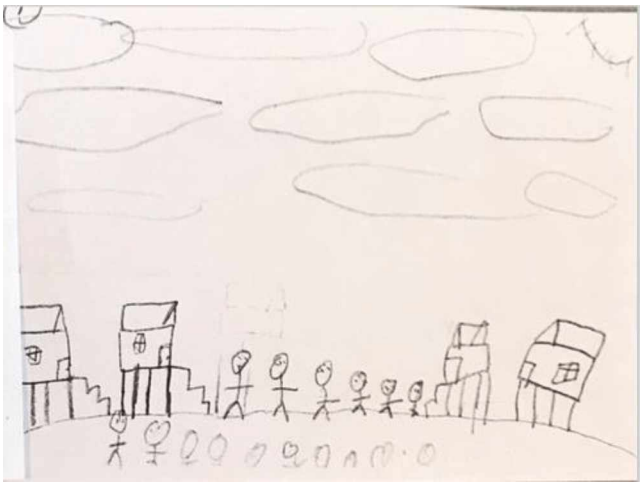

Figure 4.9 Nellie and Payton Ground or Sand.

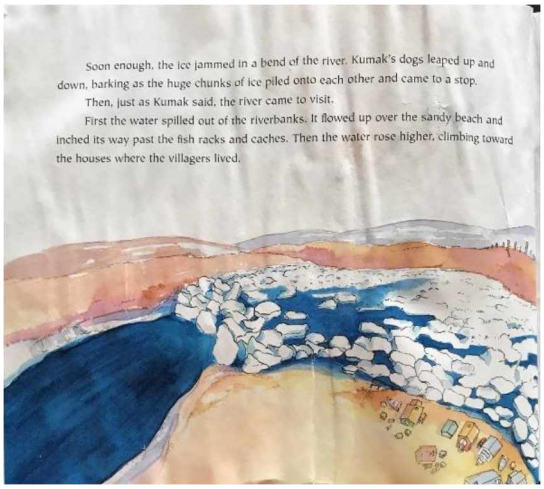

Figure 4.10 Bania (p. 3, 2012).

Excerpt 4.7

Nellie and Payton: Ground or Sand

Line #	**Transcription**	**DME Occurrences**
98	N: hurry up *furrows brow, scoots closer*	
99	P: agh *shakes head, scoot chair in*	
100	N: this one	*Focusing on picture meaning; discussing continuation*
101	P: what to tell about? The peoples are on ground	
102	[uh]	
103	N: I'm scared	
104	P: let me do it	
105	N: the people are on the sand	
106	P: I spelled a (weird) p people the people are on	
107	N: [in on] the ground *reading over partner shoulder; talking to*	*Focusing on word choice; discussing continuation*
108	P: wait I thought you said sand *stops writing; looks at partner*	
109	N: oh a-sandy looks at partner; nods head	

Payton speaks first by offering the phrase "what do tell about? The peoples are on the ground". Both girls are engaged with the student image and Payton is taking in visual cues and comes up with a suggestion for Nellie to write. What is interesting is that Payton offers a semantically correct sentence in line 101 (their first attempt at continuing the written retelling of the story within the context of this research), and Nellie offers a similar alternative in line

105. Nellie's sentence in line 105 holds two very interesting characteristics. One, the word *people* did not create any discussion but is interesting to note none the less. Payton overcorrected in line 101 by adding the plural -s ending to the already plural "people" and Nellie restates in line 105 without the -s ending, "the people are on the sand". As Payton begins to write, she adopts the correct pluralization of the word *people* without hesitation. This might indicate that she did not realize her original utterance in line 101 was grammatically incorrect or, that she realized it was incorrect and simply knew that Nellie was correct and used her wording.

The second, and more dialogue inducing characteristic of this event, is centered around Nellie's line 105 rephrasing of Payton's original idea. Payton continues writing their first sentence. As she is writing, she is dictating to herself and Nellie jumps in to help her complete the sentence in line 107 by saying "ground". In this line, Nellie is referring back to Payton's initial utterance in line 101. This could be an indicator that Nellie is unaware that her statement in line 105 was more descriptive. However, Payton seems to know this and acknowledges it in line 108. By drawing attention to the vocabulary words *ground* and *sand*, the girls are involved in a discussed story continuation focusing on word choice.

Nellie helps Payton co-construct a grammatically correct sentence and adds detail by changing *ground* to *sand.* While using the pictures to make meaning, Payton saw that the people were standing on the ground but Nellie took that picture and Payton's utterance and made more specific meaning, calling the ground sand. She also could have been using her background knowledge of the story, remembering that it takes place in a village that has what looks like a beach/sandy area. The original Bania (2002) story says that when the flood came "it flowed up over the sandy beach" (p. 3). Payton likes that Nellie used a different word for this part of the retelling. Nellie accepts Payton's reminder, and confirms that is what she said so Payton can

write it with confidence. By reminding her partner, and clarifying what she heard, Payton is accepting Nellie's input and showing she values what Nellie said. The final sentence that the girls created was: *the people are on the sand.*

Interpretation, reflection and questions.

I think Nellie was using her background knowledge of the story from when she listened to the teacher read the story. The original images from the story make the ground look sandy and Nellie most likely does not have a lot of experience with sand as it is not found in her own community, leading me to believe she was accessing her knowledge of the text. This event also brings up some of the same questions I had with Jon and Wass about descriptive words and vocabulary. Did Payton just like the word *sand* when Nellie used it or was she aware that it was a much more descriptive word that *ground*? How can I use this information to help teach vocabulary in my classroom and encourage my students to write with intention while using descriptive words?

Expressing feelings.

Another significant DME I found in the data is one relating to the feelings of the students. In these events, the students are deciding to communicate how they are feeling through the process. This does not happen very often but is important to draw attention to because it gives insight into how they perceive the activity. The decision that the students make is to recognize what they are feeling and to share it aloud. When a feelings-related DME is found, it is important to reflect on what is happening in the event that might cause the student to feel this way as well as what this student might have done if they were feeling this way and working alone. Not all feelings-related DMEs are negative. There are some examples of positive reactions that shed light on the students' feelings of collaborative work.

This category emerged as I dove deeper into the data and really paid attention to the meaning behind some of the comments my students were making as they worked together. One meaning that really stuck out to me was what feelings were expressed during the collaborative dialogue of the groups. I noticed that there were both positive and negative feelings being shared as pairs worked to retell the storybook. Because students were working in pairs, they had a support system to share their feelings, both good and bad, and someone to help them overcome those feelings if necessary. When students were faced with a challenge and expressed those feelings of struggle, they may have given up if they were working alone. With collaborative work, students have someone to help do the heavy lifting when it becomes too difficult. On the other hand, there were many times when I noticed students' feelings of pride or joy while working with their partners. They expressed excitement at the writing they were doing as well as sadness when the work session ended. The following three examples illustrate a variety of feelings and interpretations of the importance of having students experience those feelings in a collaborative pair.

Nellie and Payton: Scared.

Chronologically, this particular event happens first for Nellie and Payton. They are just beginning their retelling of Bania (2012). Payton begins by sharing her ideas about what to write with Nellie, who was designated as the first writer. This event is the very first time either partner has written in the context of this study. This event is a great example of the support collaborative work can offer individual students.

Excerpt 4.8

Nellie and Payton: Scared

Line #	Transcription	DME Occurences
101	P: what to tell about? The peoples are on ground	*Soliciting input; continuing story*
102	[uh]	
103	N: I'm scared	*Expressing feelings*
104	P: let me do it	*Taking control*
105	N: the people are on the sand	*Repeating; continuing story*

At the beginning of this event, Nellie leans over to the paper and starts writing the first word of the sentence Payton suggested in line 101. This move shows Payton that she likes the sentence that was suggested and agrees that it would be a good one to start with. Then in line 103 Nellie expresses that she is scared and erases what she has written. In the video her face turns into one of uncertainty. Payton jumps in right away to take over for her partner. Payton does not argue with Nellie or tell her to "just write" as I have seen in other groups from this research. She accepts that Nellie does not feel comfortable and takes control of the writing in line 104.

What is great about this is that even though Nellie is feeling scared, she does not pull away from her partner. I think by Payton just accepting that she needed to take over and Nellie feeling comfortable expressing those feelings, she was still able to participate in line 105 by restating Payton's original utterance from line 101. What is also interesting about Nellie's recasting is that I am not sure how aware she is that she took a grammatically incorrect utterance from her partner and made it grammatically correct. This happens another time during Cycle 1.

Interpretation, reflection and questions.

If they had not been partners would Nellie have been stuck at the beginning because she was too afraid to continue? What would I have done as a teacher if she was alone? Would I have come to talk with her about her writing or would I have scolded her for not complying? I

hope that I would have taken the time to talk to Nellie and get her to feel more comfortable. By utilizing pair work, Nellie had that support system built in right next to her. She did not have to waste time sitting and doing nothing or with her hand in the air. Her partner was there to take the pressure off.

Nellie and Payton: Hurry.

This event shows the excitement that can be created when students work together on collaborative tasks. Payton and Nellie were working on their retelling of Sloat (1993) in Cycle 2 of this research. This event is more meaningful to watch because of the way Payton reacts to the possibility of having to stop working soon.

Excerpt 4.9

Nellie and Payton: Hurry

Line #	**Transcription**	**DME Occurences**
355	P: okay..Hurry up before	*pushing partner; waves hands excitedly*
356	N: what this doing	*soliciting input; pointing to picture*
357	P: um	*thinking aloud*

This event begins with Payton handing over writing control to Nellie in line 355. When Payton tells her partner to 'hurry' in line 355 her voice is full of excitement at thinking their time to work is almost up. Nellie responds in a way that shows her excitement as well as she tries to analyze the student image in front of her. The girls being excited or hurrying is different behavior than I have seen from other groups saying the same words. Typically, I would hear "hurry up" with a tone of irritation with the partner wanting to push the writer to finish so they can write. Payton wants her partner to get started. She wants Nellie to get working so they can write more together. This lets me know that Payton is enjoying the process of working with Nellie and values the collaborative nature of the activity.

Interpretation, reflection and questions.

Teachers want students to enjoy their work and if utilizing collaborative pair work increases that joy, then it should be utilized more often. Payton's excitement to get Nellie to write speaks to her positive feelings about this activity. I wonder what parts in particular Payton enjoyed?

Jon and Wass: So hard.

The feelings expressed by Jon to his partner Wass in this event are ones of confusion and struggle. The boys are working on sorting out the issue of their first and second draft in their Cycle 1 retelling of Bania (2012). The boys had originally written a very short retelling of Bania (2012) and after rereading it with me, and verbally retelling the story using the student created images, they decided to make a second draft. This event points to how students can experience struggle differently and the benefits that collaborative writing gives by having a partner nearby when struggles emerge.

Excerpt 4.10

Jon and Wass: So Hard

Line #	**Transcription**	**DME occurences**
114	J: [what you gonna write]	*Checking with partner*
115	W: went back down	*Soliciting input*
116	J: its already right there	*pointing to first draft*
117	W: where.. the flood flood went back down water went back down the flood went back down fluuud	*Looking back at writing*
118	J: man this is hard this is so hard….what you gonna write	*Expressing feelings*
119	W: went back back down	*Writing*

In line 118 Jon expresses that he thinks this second draft is very hard. In school, Jon does not usually express feelings of frustration or find himself in a situation where he is not sure what

to do next. As Wass is looking for what Jon pointed out in line 116, Jon sits back in his chair and starts talking about how difficult this is. This is a very quiet and pensive part of the recording. In the video the boys' bodies are very still. Through this cycle both boys have been moving around a lot and Jon has been doing most of the talking. Now that is not the case. Wass is trying to figure out what to write next and Jon has pulled back and looks like he is thinking very hard.

Interpretation, reflection and questions.

What would Jon have done if he was working alone? He does not normally get stuck in writing. His ideas flow easily. By having Wass there I think that Jon was allowed to acknowledge that this was a difficult task but he did not get discouraged because of it. It was helpful that it was Wass's turn to write so Jon only had to focus on supporting his partner when he got frustrated.

Technical decisions.

Through the data analysis, technical decisions emerged as a third theme which seemed prevalent in conversations with the participants. I noticed that there were times pairs did not discuss any meaning related to the continuation of the retelling they were working on, but still co-constructed other meaning. These are *technical decisions*. They relate to discussions about overall organization of the retelling, turn taking, current placement in the sequenced student images, and spelling or other conventions.

Technical decisions, unlike the DMEs presented above, can occur with any other DME since they do not relate directly to the continuation of the retelling. They also do not need to be dialogue creating decisions. For example, spelling DMEs can happen in both *discussed story continuation* and *no discussion story continuation* DMEs. Sometimes pairs are constructing a

sentence and are involved in a *discussed story continuation* when the writer asks how to spell a word or the non-writer points out a writing mistake. Other times, spelling DMEs happen when the partners are in a *no discussion story continuation* and they solicit help from their partner solely for spelling.

Technical decisions are any DME that pairs make that do not directly connect to the meaning making process as it relates to the retelling of the story. Technical discussions can be supported by mediational tools such as text or spatial resources but it is not a requirement for the definition. One partner might utilize the size of the writing paper (spatial) as a tool to help decide when a turn is up, or the punctuation in the student image to help with punctuation.

Other technical decisions that pairs can make during co-construction are about the overall organization of structure of the writing. They might tell each other where to physically stop or start writing on the paper. Pairs can also focus on turn-taking by giving or taking control of the writing when one partner's turn is over. This control is sometimes given or taken as a turn ends or is sometimes planned in advance. The three examples in this section are all different. Two focus on the organization of the writing, one of which is using a mediating resource to help support the DME. The third data sample related to spelling, where the pair is trying to make a decision about the spelling of a word.

John and Wass: What you gonna write.

Cycle 1 with Jon and Wass involved two drafts. The first draft that the boys created involved a lot of dictated sentences by Jon with Wass following along. The boys created a retelling that matched the story by Bania (2012) but did not utilize all of the pictures they were given to sequence. They wrote six sentences that were sequentially correct but the activity was to write a sentence for each picture they sequenced. Because of the initial sequence that the boys

created, I encouraged them to start over. This event comes from a second attempt to retell the story by Bania (2012).

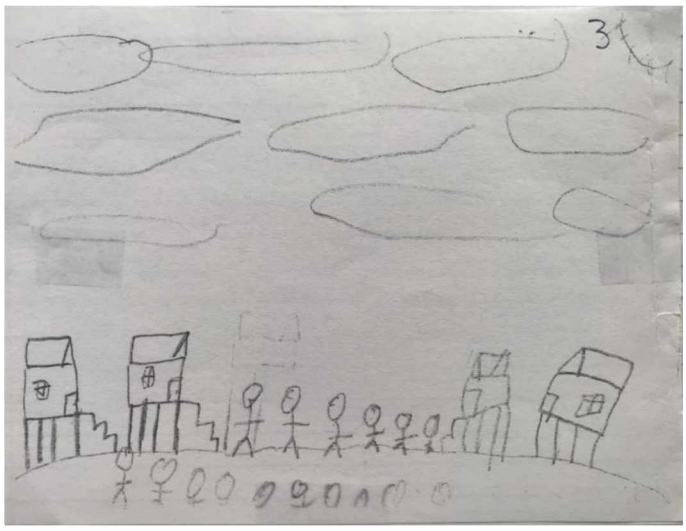

Figure 4.11 Jon and Wass What you Gonna Write.

Excerpt 4.11

Jon and Wass: What you gonna Write

Line #	**Transcription**	**DME Occurrences**
113	W: and…the flood	*writing*
114	J: [what you gonna write]	*checking in with partner*
115	W: went back down	*Organization DME*
116	J: its already right there	
117	W: where.. the flood flood went back down water went back down the flood went back down fluuud	

The technical decision the boys discussed was about organization. As mentioned above, the boys were rewriting their retelling of Bania (2012) and a few things happened in relation to that rewriting. In line 114, Jon begins by asking "what you gonna write" giving Wass the control and the opportunity to come up with the next sentence to write. Wass provides a suggestion of "the flood went back down" which Jon does not seem to like. He points out that they already wrote that sentence before. Jon points to their first draft of the retelling. Wass does not debate with Jon about this fact because they did write a very similar sentence in the first draft. He

accepts that they had already written the sentence. In the video Wass seems confused by his partner's attempted clarification. Instead, Wass ends up writing the sentence *the people went back down*. Overall this sentence is just fine but it does not fit with the continuity of the story and they actually ended up writing the same sentence a few days later.

I think it is interesting to see how differently these boys interacted with the available pictures and sentences before them. Jon was clearly utilizing the designs that he and Wass had created earlier to help him navigate through this activity. It is possible that he found this part difficult because the sentence Wass suggested of "the flood went away" made sense but they had already written that in their first draft. Wass, on the other hand, was dealing strictly with the student created image and the sentence that came before. The sentence that came before was written as *The Toys went away.* Wass was thinking about what happened next in the story and how that would connect to the picture they were working on in their sequence.

Interpretation, reflection and questions.

I wonder what each of them would have done if they had been alone. It is interesting that in the organization DME, Wass accepted Jon's statement that they had already written the sentence he had suggested. Would Wass have used his original sentence "the flood went away"? There seemed to be much confusion over where the first draft ended and the second draft started. Should I have given them a new paper to use when I asked them to start over? I can see how the first draft of their summary was helpful to give them reminders of what they had done before, but I also see that it hindered Jon in his ability to separate the two retellings.

Liz and Gina: Who starts?.

This is Liz and Gina's first sentence of the second cycle. They were beginning to retell the story of *The Hungry Giant of the Tundra* by Terri Sloat (1993). I broke the image by image

pattern for this because of the way the girls structured their writing. I felt this whole intro with both girls writing was important. Neither turn involved a discussed story continuation. Both girls engaged with the other but did not build meaning together about continuing the story. That meaning was made individually. They did spend time discussing turns and expressing ideas about the physical writing process. It also seems they were negotiating the meaning of their relationship. Between the girl's writing turns (Lines 71-76) there were off task comments which can be seen in the full transcription (Appendix H), along with the sequenced student created images.

Excerpt 4.12

Liz and Gina: Who Starts?

Line #	**Transcription**	**DME Occurrences**
65	L: Ms. Short said I got to write the date	*Discussing writing placement*
66	G: look I can do it right here look right here	
67	L: down here	
68	G: okay	
69	L: (how) you write once upon a time	
70	G: you first	*Taking Turns*
	Lines 71-76	*Self-talk and off task behavior*
77	L: your turn	*Taking Turns*
78	G: once upon a time….once upon a time then- once upon a time..eh…there wah as a buh ig bit big what? Giant?	*Focusing on word choice; Discussing continuation*
79	L: mhm	
80	G: gu eye- how do you spell giant giant giant giant giant	
81	L: mm nn	
82	G: g- i- giant now its your turn giant what	*Taking Turns*

At the beginning of this event, Liz and Gina write their names and the date. From their interaction it is my opinion that they are still struggling with the dynamics of their pairing. Liz is the first writer just like in Cycle 1 and she writes was *once upon a time* which was a decision she made without discussing it with Gina. This is the same starting sentence they used in Cycle 1. I

would call this DME *no discussion story continuation* because even though Liz asks Gina how to spell words she is writing (*technical decisions)*, there is no discussion about the continuing of the retelling.

Because I chose to combine two writing events, there is more opportunity for the girls to participate in discussion and collaboration. This event is interesting for two reasons. One is how the girls made meaning from the available student created pictures. Once Liz has finished her initial phrase she turns the control over to Gina who solicits input from Liz in line 78. It is this small moment that I call a *discussed story continuation.* Based on the pictures that the girls were likely looking at, Gina could have chosen to write about the kids. She still checked in with her partner to confirm that what she wanted to write was acceptable.

The other part of this event that holds interest is the way that the girls separate the workload. All of the other pairs took turns sentence by sentence. Liz and Gina took turns by sentence chunk. Initially, they argued about writing the date, focusing on the technical decision of organization and turn taking and it is clear how the decision was reached for Gina to write the date. With this first written sentence however, it is unclear how they determined who would write what. Looking at *Figure 4.12* along with the data, it seems as though Liz simply made a decision that she was done writing even though what she wrote in blue, *once upon a time*, was not a complete sentence. More curious is that Gina did not hesitate to jump in to finish the sentence in green.

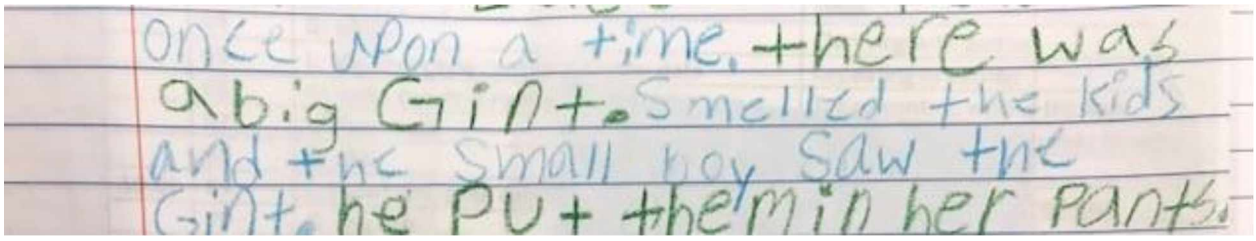

Figure 4.12 Liz and Gina Who Starts?

I had given direction to take turns and said many times that one way to do that was to go sentence by sentence; however, it is not clear in the data if I said that to Liz and Gina directly or if they were close enough to hear. Even so, separating turns by chunk rather than sentence is a very interesting choice and might indicate that they struggle defining sentences.

Interpretation, reflection and questions.

What does this event say about Liz and Gina's ability to share? Does their focus on the organization and technical aspects have anything to do with their readiness in writing? Liz begins their retelling in the same way with *once upon a time* without checking in with her partner. Is this because she is confident in this path and her ideas? Both girls have ideas to share when writing but it is my opinion that individually they struggle to develop ideas outside of the concrete. Maybe this hindered their collaborative writing? Were they possibly in a hostile pairing? In the classroom both girls are generally agreeable students and have many friends. It would be interesting to see what kinds of DMEs they would have if they were partnered with someone like Nellie or Payton who had so much fun working together.

Chrissy and Andrea: Krane or crane.

Chrissy is the dominant partner in this pair. Over the course of these two cycles, Andrea has let Chrissy take control and dictate ideas to her. This event is no exception. There is no video data for this event and without video it is impossible to know which picture Andrea is talking about in line 315. Notes from the teacher research journal on this day are sparse but I was present during part of this interaction. What I wrote in my journal were comments about the interaction between Chrissy and Andrea. I wrote "I wonder how much Andrea is contributing and how much she is just following Chrissy's lead. I only ever hear Chrissy telling Andrea what to do. I haven't heard them actually build a sentence together" (Journal Entry, Short, April,

2018). The following excerpt depicts technical decisions where the girls focus on turn taking and spelling while still continuing their retelling within a discussed story continuation event. The full transcription for this event can be found in Appendix I.

Excerpt 4.13

Chrissy and Andrea: Krane or Crane?

Line #	Transcription	DME Occurrences
314	C: [the bird] put.. up geee.. again..now your turn you know what's gonna happen	
315	A: this one	
316	C: m- um no mhm	
317	A: what	
318	C: how do we put it umm and then after that they were running til they sawn a river and then they sawn a crane	*Continuing the retelling*
322	Lines 319-331	*Dictating sentence and self-talk*
331	C: until i-l	
332	A: nn tuh ill	*Focusing on spelling*
333	C: like this (until) because it's right here look wait	
334	A: till until	
335	C: until.. they.. sawn…saw you know how- um I'll show you get rid of the en and then put aaaa doubleyou	
336	A: saw	
337	C: and then make this a ay	
338	A: saw what a crane?	
339	C: saw.. a.. river… then..	
340	A: t-h	
341	C: they..saw.. a.. naaaa I think you're supposed to put a cee I think are we? Are we supposed to put aaaaa	*Focusing on spelling*
342	A: doesn't make sense Chrissy and then put a eee	
343	C: [oh okay] did you know it's hearing us	
344	A: its okay	
345	C: aaaah kay or cee because I don't know how to spell crane	
346	A: kay	
347	C: oh okayyy	
348	A: k errr	
349	C: ooookaaayyy saaaaw what are we supposed to do so now go to the back	*Focusing on organization*

This excerpt starts with Chrissy telling Andrea it is her turn to write. It is clear that Andrea thinks she knows where they are in the retelling, but Chrissy disagrees with her. It is unfortunate that they do not discuss more about what Andrea was trying to say but the lack of video data for this interaction points to the importance of non-verbal gestures and the meaning they contribute to collaboration and co-construction.

While Andrea is writing, Chrissy takes on a leadership role and begins dictating her ideas to Andrea. This event shows how technical decisions like turn taking (line 314) and spelling (341-346)) can happen at the same time as discussed story continuations (lines 338-339).

Andrea was ready to bring the crane into the story in line 338 because that would match the picture they were likely writing about. Chrissy was still thinking about her original utterance from line 318 which included the word *river*. When they do get to the part about the crane, because Andrea is the writer, she begins to spell *crane* as k-r-a-n-e. What is interesting is how Chrissy suggests that Andrea has misspelled the word. Instead of telling her it is not correct, she says "I think you're supposed to put a 'c' I think". Instead of criticizing her partner she puts the redirection inside a question (line 341). Andrea counters telling her it does not make sense to have a 'c'. Chrissy back-tracks in line 345 admitting that she does not know how to spell *crane*. Here, the girls are engaged in a technical decision making event around the spelling of *crane* while also discussing the continuation of the story (getting to a river then meeting the crane).

Interpretation, reflection and questions.

I do not believe that Chrissy did not know how to spell *crane* because in the next sentence of the retelling, Chrissy writes the word *crane* and instead of adopting Andrea's spelling for the word, she uses the correct spelling. Andrea ends up misspelling the word *crane*

and Chrissy does not correct her. This could be hinting at the social dynamic of these two students. While knowledgeable, Chrissy is less confident in correcting her partner, which mirrors her behavior within the classroom and Andrea has no fear in stating her opinions just like she does in our whole class discussions. I wonder how this same event would have been handled if Chirssy was with a peer with less confidence in their spelling ability. Why did Chrissy think it was easier or better to let Andrea misspell *crane*?

Modality use.

As students are participating in the DMEs mentioned above, they are putting their attention on the different modalities available to them. The student created images have a variety of modes available for the students to draw upon. Within the data, students are paying attention to the words the artist wrote on the picture (linguistic), the image itself (visual) or details from the image and how it fits with the rest of the image (spatial). Because of the data collected, the students were also communicating meaning through their gestures (kinesthetic). Additionally, the interactive and collaborative nature of the activities the students were involved in encourage the use of spoken language (sound) to make and communicate meaning.

No Discussion Story Continuation

Another type of story continuation that occurred in the data was a *no discussion story continuation* event. This is a decision that is made by the writer without communicating to the other partner. The writer might say the sentence they are thinking of out loud but without the intent of soliciting input from the partner. The writer is merely talking to him or herself. There might be interaction based around spelling but the word and word forms are chosen by the writer without input from the non-writer. Within the data, this could be seen by listening to the audio of

the writer as they self-dictated. Evidence of this in writing was that the audio matched the written sentence in the colored pencil that the writer was using.

Input solicited and dictated story continuations.

An *input solicited story continuation* is when the writer solicits input from the non-writer by asking a question about what to write or what to put next. This DME involves both partners but the role of the writer is to put down the idea the non-writer suggests. This event may be preceded by the writer asking something like "what now" or "what's next". This is different from a *dictated story continuation* where the non-writer makes a sentence suggestion without the request of the writer. Here the writer is essentially a conduit for the ideas of the non-writer. Both of these DMEs involve the sentence to come from the non-writer and for the structure of the sentence provided by the non-writer to be dictated without change. But only the input solicited event involves the sharing of ideas, meaning making and and the use of mediational tools from one or both partners.

Chrissy and Andrea: The River Calmed.

In the example below, Chrissy and Andrea are working on their Cycle 1 retelling of Bania (2012). This is an example of input solicited story continuation DME mixed with a dictated story continuation DME. The girls are adding a sentence that connects *Figure 4.13* and *Figure 4.14*. The excerpt begins with Andrea getting to write while she solicits input from Chrissy.

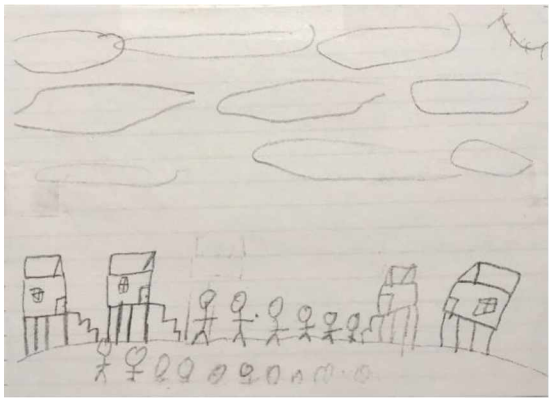

Figure 4.13 The River calmed

Figure 4.14 The Villagers looked

Excerpt 4.14

Chrissy and Andrea: The River Calmed

Line #	Transcription	DME Occurrences
266	A: and then what is-	Soliciting input
267	C: and then and then the river calmed down	Providing input
268	A: aaaaand then theeee riiiiver	Writing; dictating to self
269	C: calmed	Dictating to partner
270	A: k	
271	C: cee ay el em	Spelling for partner
272	A: em	Checking spelling
273	C: mhm	Confirming spelling
274	A: [calmed] calmed calmed down	Writing; rereading writing

Andrea begins by asking Chrissy what one of the student created images is showing. It is unclear from the video data which picture Andrea is pointing to from the way she gestures generally at the images. However, this particular sentence comes right after the girls directly point to a reference in *Figure 4.13*. They then go on to discuss *Figure 4.14* clearly as well. For that reason, both figures have been included. In line 267 Chrissy begins to construct a sentence for Andrea to write. Andrea does not engage in any other dialogue with Chrissy about the continuation of the story. Instead, Andrea spends her time self-dictating what Chrissy said in line 267. Chrissy jumps in to help with spelling but neither girl engaged in meaning making that enhances their written retelling.

Interpretation, reflection and questions.

When I noticed data where students were dictating to each other without collaborative dialogue it made me wonder two things. I thought about whether the writer did not understand the next step or was not confident in his or her own ideas and I thought about whether there was an unspoken understanding that the dictated sentence was accurate enough and therefore did not need to be talked about. Chrissy and Andrea are both capable students so it would be interesting to have a little more insight into this event. Because it is not clear if this sentence connects to a specific image, it is hard to tell if Andrea understood why Chrissy chose the sentence she did. For a look at their full writing sample from Cycle 1, see Appendix G.

Transformed story continuation.

A *transformed story continuation* is categorized as an instance when the writer changes a dictated sentence. This DME does not involve discussion by the partners. The non-writer provides the suggested sentence but instead of discussing the sentence, the writer makes changes to the sentence as he or she writes it down, thus making transformations (decisions) to the sentences but without input from their partner (non-writer). These changes are usually found in verbs or plural and singular changes. A *transformed story continuation* DME differs from a dictated story continuation because even though there is no dialogue, both partners are making decisions about meaning and retelling whether or not they know it. What the writer finally writes does not change the meaning of the sentence but the writer is still making decisions about how to communicate the sentence created by the non-writer.

Jon and Wass: Chicka Bee Bee.

The excerpt below shows an example of a transformed story continuation. Jon and Wass are working through their retelling of Sloat (1993). In this example, Wass is writing while

Jon is telling his partner what to write. The student created image below (*Figure 4.13*) shows a bird, Chicka Bee Bee, sitting in a tree above a pair of pants that the giant turned into a bag. In the story, the giant puts the children in his pants bag while he went back home to get his knife. Then Chicka Bee Bee comes to help rescue the children.

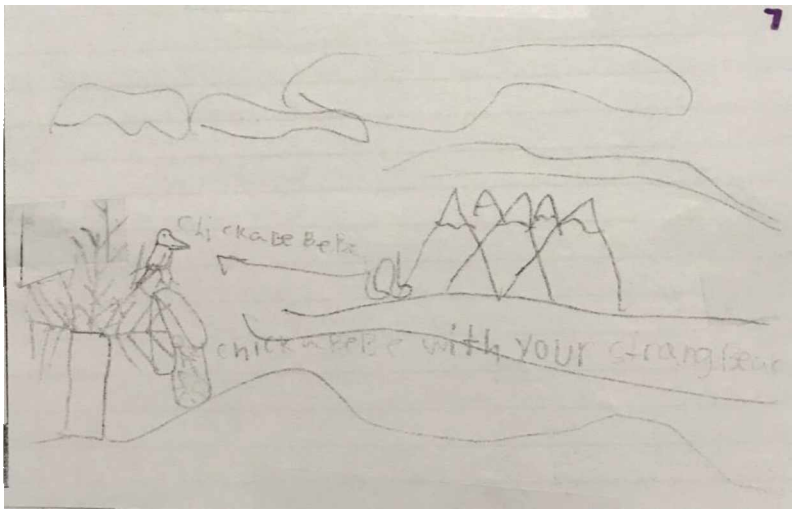

Figure 4.15 Jon and Wass: Chicka Bee Bee

Excerpts 4.15

Jon and Wass: Chicka Bee Bee

Line #	Transcription	DME Occurrences
135	J: [chicka bee bee] take the string off from the giants pants	*Continuing story*
136	T: do you agree with that Wass? Okay	*Checking with students*
137	W: erase that	
138	T: [help him remember] how to write it	
139	J: chicka bee bee chicka bee bee chicka bee bee chicka bee bee.. the bir the birrrrd birrrrd take off the rope from the giants pants... the bird the bird...the bird... the bird too the string off from the giants pants took... tee oh oh kay	*Dictating to partner; continuing story*
140	W: the bird took took took	*Writing; dictating to self*
141	J: the string off the giants pants	*Dictating to partner*
142	W: the bird took off	*Dictating to self*
143	J: off..off..off off off off the giants	*Dictating to partner*
144	W: the bird took	
145	J: the giants pants.. the giants p- the string from the giants pants	*Dictating to partner*

In the excerpt above Jon starts off by responding to the researcher (T) about what he wants to put next as he and Wass continue their retelling of Sloat (1993). In line 135, Jon suggests "Chicka Bee Bee take the string off from the giants pants" as the way he would like to continue the story. Even though I ask if Wass agrees with the suggested sentence, I would not count this as any sort of discussion because I facilitated that agreement. The boys did not engage in a discussion on their own. What happens next in lines 139-145 is the interesting part of this example. Jon is dictating to Wass and Wass is writing silently for a majority of the event. Even as Jon is telling Wass what to write, Wass is changing the sentence. That is visible in line 139 as Jon is dictating and reading what Wass is writing. He starts by repeating "Chicka Bee Bee" multiple times but then suddenly switches to "the bird" because that is what Wass chose to write. The meaning of the sentence Wass chooses to write is about the same as the one Jon suggested making this a transformed story continuation. Through the dictation process, Wass changed the sentence to read *the bird took off the giants pants*. The full sample of this retelling can be found in Appendix C.

Interpretation, reflection and questions.

This example starts me thinking about the dynamics of this pair. Jon jumps in with a long sentence for Wass to write down. He also repeats "chicka bee bee" multiple times which might have overwhelmed Wass as he was trying to write. I remember thinking about the repetitiveness of Jon's talking and if it was conducive to the written retelling. It seems that in this instance, Jon's talking might have confused or overwhelmed Wass which might have been why, even though he heard *Chicka Bee Bee* many times, he still wrote *the bird.*

Summary

An important idea to take from this analysis is that each pair uses images to assist in their meaning making in different ways across groups and even between partners. Partners also supported each other in times of struggle. Additionally, the way they took turns and developed their understanding of the resources together was interesting. Nellie and Payton ended up utilizing the linguistic resources in the student created image in their retellings while Jon and Wass chose to focus solely on the images in that same picture and draw meaning from that and their knowledge of the story in general. Liz and Gina did not seem to utilize the student created image as a mediational tool as it related to the retelling of the story at all. Further investigation into this might be interesting because the girls still managed to create a retelling of all of the storybooks.

The support system available during collaborative writing is something that I found encouraging. It forced me to do a lot of reflecting as a teacher and evaluate the way I approach independent workers who do not have someone at their side. Teachers cannot know everything and often make assumptions based on a very small sliver of observational data. Having a partner available, opened up windows into the feelings and thinking processes of my students as they came to hurdles in the collaborative activity. These are hurdles I would not be able to see if they were alone internalizing everything. Only within the collaborative structure am I privy to this information. This tells me that collaborative work is invaluable because no pair failed to complete a retelling because they got stuck or were frustrated or overwhelmed at the difficulty of the task at hand. Each student had a partner who could see where the struggles were or what the confusion might be. When teachers are the only support system, things can get muddled and students have to communicate what they are thinking and what they do not know so the teacher

can get in on the process. Even more, it might be difficult to explain aloud. This is not so within collaborative settings because peers have been there from the beginning.

Something else gleaned from the data is that the quality of the work the students create is enhanced in some way. Working with partners, students notice details that may have been glossed over in independent work as they share, develop, or disregard ideas and suggestions from each other. How did they choose what to focus on? What would have happened and how would meaning have been made if all groups had the same picture order? It would have been interesting to see how each student and pair utilized the tools available to them. It would have been interesting to be able to do some cross-group analysis based on the picture and spot in the retelling. Some of the images were used differently by different pairs but they were also placed in different spots in the sequencing step of the activity. If time would have allowed, looking back on how students made meaning from the student created images as they sequenced the pictures would give more insight into their original meaning of the student created image and why pairs chose to put certain pictures in certain spots. It would be interesting to see the conversation surrounding their first exposure to the student created image.

Chapter 5: Conclusions

In this chapter, I will explore the conclusions that can be drawn from the data collected in this study. The data in this study yielded information about the decisions my students were making as they collaborated and co-constructed written retellings of storybooks. As a review, the questions my research attempted to answer were: *What happens when my students engage in collaborative writing? How do my students work together as they co-construct meaning during collaborative writing?* Two major implications can be drawn from the data in this study. The collaborative process allows for slowing down for the benefit of the participants and the researcher and second, the ownership of the mediational tool effects the dialogue and decision-making events connected to it.

Slowing Down

Within the context of this research, *slowing down* refers to the ability to see or participate in a more elaborate work process. Students working in pairs had more opportunities for meaning making because they were sharing ideas together. Their process of decision making was slowed as they took turns analyzing and deciding which addition to their written retelling was best. By having a partner, students' inclination to stick with their first idea was slowed down because of their partner. The teacher was able to see this process slowed down, resulting in access to new information about student thinking as well.

Effects on the students.

The student created image helped pairs slow down their decision-making process. Having the image created a conversational connecting point for the partners. They talked about the student created image and explained their ideas, thus slowing their thinking processes down and allowing them to comprehend more or better. I found through my data analysis that

collaborative pair work enhanced the process of writing. For example, one partner might be noticing details in the student created image or errors in the writing that the other does not see or does not consider, leading to collaborative dialogue. Thus, slowing down their decision-making and engaging both partners in a collaborative process can lead to new understanding. Collaborative work also enhances the overall product which can be seen in conversations about vocabulary choice, sentence structure, accuracy of the retelling or length of the collaborative writing. Collaborative pairs support each other as they work to choose the best wording for their written retelling.

Andrea and Chrissy spent time deciding which verb (*was* or *were*) was the correct verb for a sentence they were building in their retelling of Bania (2012). For Andrea and Chrissy, the success of the sentence hinged on their understanding of the rules of standard English and how plural nouns must agree with the verb. Chrissy began supporting her partner as she read aloud the sentence Andrea had written while emphasizing *was* in the sentence "the dogs was" in a possible attempt to indicate the error. Andrea responded with her own turn at testing out the correct verb for the sentence. Not only did this event provide an accurately written sentence (*the dogs were floating away)*, it provided both girls, especially Andrea, an opportunity to notice language features during the activity.

The collaborative process is further enhanced by the use of mediational tools such as the student created images each pair sequenced in Cycle 1 and Cycle 2. When my students actively engaged in using the student created images at their disposal, as well as the modes within those images (spatial and linguistic), their writing became clearer. Storch (1999) found this increase in accuracy within collaborative writing as well saying that "overall, when students completed tasks in pairs their joint effort was more accurate" (p. 370). For example, when Nellie and Payton

discussed the use of *ground* versus *sand*, that DME was supported by the student created image. It was also supported by their knowledge of the original storybook. Slowing down and engaging for a longer time with the student created image allowed collaborative dialogue about the meaning of the image to occur with the support of modes within the image.

The same type of event happened with Jon and Wass as they retold the story of Bania (2012). As Jon was writing, Wass had the opportunity to analyze the same mediational tool (student created image) and help his partner create a more detailed sentence by changing *cover* to *block* in their writing of the sentence *the ice block the school*. Jon's success was made possible because Wass encouraged him to analyze the student created image more than he had for his initial idea. This process allowed Jon to remember that impulsivity will not lead to accuracy and that thought and careful thinking can be beneficial.

Effects on the teacher.

This research supported me as a teacher by helping me slow down as well. I was able to see into my students' thinking because of the collaborative nature of the activity and the conversations my students were having. This project also helped me realize that by slowing down, I got to see my students in a different way and will be able to implement that knowledge into the classroom.

Through this research I gained insight into my students' thinking as they worked through ideas and made decisions about their writing together. Observing my students and seeing what they focused on enabled me to see how they were ready to develop, both socially and literacy-wise. Collaborative pairs working to co-construct writing helps to strengthen student language and writing skills but could also prepare them to be better collaborators and co-constructors.

When Jon reached a roadblock as he and Wass were trying to rework their written retelling of Bania (2012), I did not need to be there to help him through it. All that I might have done was overwhelm Jon as he tried to explain to me what he was struggling with. This is similar to what Goss et al. (1994) found in their study about the (meta)cognitive breakdown that language learners can have if they are responsible for both solving the problem and explaining how they solved the problem. Wass did not allow Jon to give up. Wass helped Jon persevere by having confidence in his own ideas while his partner was unsure of the next move. This study allowed me to see Wass as a leader which is something I may not have noticed with general classroom observation.

Nellie and Payton experienced similar feelings right at the beginning of this research process. Nellie was supposed to be the first to write after the girls had completed their student image sequencing. In the video data, her face and body language show hesitation before she admits to Payton that she is scared to start. Payton immediately takes over the duty of writing and the girls are able to get started with their written retelling of Bania (2012).

Neither pair had been asked to collaboratively write before. They had not been given a lot of instruction about how to go about rewriting the story. In their first written retelling, these pairs had moments of fear that could have stopped their progress. With the help of their partners, however, both Nellie and Jon were able to move forward.

Nellie and Payton also showed their excitement for this writing process. Despite being tentative at the beginning, when I would stop them, or when they felt that writing time was almost over, they would get more animated and Payton would tell Nellie to "hurry up" in an excited way. Once, when I asked them to clean up, I heard them both explaining that they were

having fun. This is exactly what teachers want. And exactly what I needed to see as a teacher who had been struggling to get her students to engage and create detailed writing samples.

I also learned that kids who seem so similar, like Nellie and Payton, process information differently. As their teacher I would often put these two girls in the same group and present them with the same information. Through this research process I was able to slow down and see that Nellie and Payton are drawn to different linguistic features within the student created image. Payton was more often drawn to the linguistic features of the student created images while Nellie seemed to make meaning from the image at first until Payton pointed out other aspects to her. Later, when both girls were focused on a linguistic mode, Nellie utilized the caption on the image "Picking Berries" which worked well in Cycle 1 when Payton did it. Payton, on the other hand, focused on a linguistic feature that required her to inference more about the connection of the words to the image. Both girls were able to approach the activity with success and showed that each girl was growing and adding new modes of comfort to their meaning making process.

It is important for teachers to understand that students who seem similar on the outside and in their in-school performance are actually processing information through different modes or different representations of modes leading to completely different understandings of the same thing. There are so many other nuances to the way students acquire understanding, especially when it comes to their use of multimodalities. And while that is extremely powerful for researchers (Healy, 2008; Cope & Kalantzis, 2009), it can be even more powerful for other teachers.

Students want to be collaborative.

This research also showed me that students want to be collaborative learners. I saw it in the way Nellie and Payton were actively engaged in what they were doing. So much so that they

expressed sadness when it was time to stop working for the day. Chrissy and Andrea experienced similar feelings. In the data, they would rationalize to me why they were only "this far" because they were trying to get the retelling right or they would whisper to each other about how far or close they were to finishing their written retelling with pride instead of complaint.

Even pairs like Liz and Gina who did not engage in collaborative dialogue as much as the other three pairs, still worked together willingly. In the beginning, they had a difficult time deciding on the division of duties and whose turn it was to start and where to stop, but by the end of the research, their process was much smoother.

Keeping in mind that the students who participated in this study were all fairly agreeable and easy to get along with, I did not have one behavioral issue to deal with. Students were so engaged in the activity and working together. Even when disagreements could have been easy, like when the student created images were being sequenced, there were no arguments that would have made collaborative work unbearable for the students. As a teacher, that was freeing to watch. I could confidently go between pairs of working students without worrying about behavior. Even the students who were more distractible, like Brittany and Kim, whose data were not used, were more engaged in the collaborative process than when they worked independently.

Because I did not use mini-lessons or give any focus to the activities, the data show that my students' natural instincts are as collaborators and co-constructors. They were not guided by any rules or expectations in this study. They are, essentially, novice to this process and that in and of itself is valuable. Through the data, teachers and other researchers can see that students want to be collaborative. Even those like Liz and Gina, who might not be ready to focus on

content and meaning making, still co-constructed a writing piece. They were interactive and engaged in the quality of the activity.

Ownership

This research showed that students slowed down to engage more with the writing process when they were with a collaborative partner. It also shows that the way students analyzed the picture was dependent on the modalities within it as well as who claimed ownership of it. Which student had created the image affected the way it was interpreted. Many of the student created images presented in this paper were not created by the students whose excerpts were shown. These pairs of students had to work a little harder to make meaning from the student image than the original artist did.

Educators know the importance of hands on experience and visuals, but we do not think about processing and meaning making in much detail when that process happens on paper. For example, all of the participants created pictures about the same story but watching them make meaning from someone else's student image was where collaborative dialogue and meaning making were most used. A pair's interpretation of someone else's work might lead them to place that picture somewhere in the sequence that they might not have put it had they known what it was. Or, they noticed details about the image because it was not theirs. The student created image was totally fresh to them and they had to take more time to absorb the potential meaning.

The image of the giant being mad and kids picking berries that Nellie and Payton analyzed was actually created by Chrissy. Nellie and Payton had to spend more time engaging with the student created image and noticing different features within the image. Together, the two girls demonstrated how many modes and versions of similar modes can be put into one creation and more so, how all those pieces can be utilized differently to create meaning. Chrissy

knew what part of Sloat (1993) she was representing when she created that picture. It was her first drawing representing the beginning of the story but all of the details she included created opportunities for her classmates to see that image in a different way.

Jon and Wass spent time creating the shared understanding of the giant's breath image, which was not created by either boy. Wass needed to engage his knowledge about the original storybook to help Jon see the more accurate interpretation of the student created image forcing the boys to slow down and engage in meaning building dialogue. I could see that as they interpreted the mediational tools at their disposal, they focused on certain literacy aspects. In particular, many of their story continuations involved focusing on picture meaning and signs and symbols within the student create image. Pairs like Jon and Wass spent time interpreting the student created images from Sloat (1993) to decide the most accurate meaning of the image as it related to their background knowledge of the storybook. In Chapter 4, this event focused on Wass's understanding of the student created image and his memory of the storybook, versus Jon's initial interpretation of the student image seemingly without referencing his own knowledge of the original storybook.

When the image had only spatial representations and images in it, the interpretation of the image was much more open ended, as seen in Jon and Wass's discussion about the giant's breath. When linguistic features were added, like in the 'ice block the school' student created image, I was able to see more clearly which features my students were drawn to because there were more modes to choose from. The two boys in the study still focused on the images and drawings in the student image while the two girls in the study used the linguistic features to help continue the retelling of their story.

It is important for all learners to be able to access information in a multimodal way and knowing student's preferences for meaning making is important. When they are struggling we now know, through research like this, how to support them within a mode of comfort. However, students should not be limited to learning in the modes they are comfortable in. Knowing where their modal weaknesses are allows educators a place to enter the conversation and support the teaching of making meaning through all modes, thus increasing opportunities for students to engage in critical literacy and become global citizens.

What I wish I had done: Research

Through the process of TAR, I learned to prepare for all possibilities and think about the size of groupings. I wish that I had done the whole class read aloud like I did with Cycle 3 because it was just so much easier on me. Making sure technology is charged and ready and having backups and backups is so helpful. Dates and times are important and the teacher journal was so interesting to go back through when I was coding and analyzing my data. My impressions at the time did not always match my impressions from the video or when I would listen to the recording again, proving that teachers only get a snippet of what their students are doing.

One great aspect of TAR is that it is an iterative process. Because of this, there are a few aspects of this research that I was not able to investigate. The most notable was the data from Steve and Natalie. These two students spent significant time talking in Yugtun and then writing in English. Unfortunately, not only were the recordings of their data very quiet and hard to decipher, I did not have a Yugtun-speaking co-researcher who could have helped me with the translations. Being able to translate the data made me think about the translanguaging, thinking and working between languages, that could be hiding in that data. In the future, it might be

interesting to return to this idea and see how translanguaging broadens our understanding of what happens in a bilingual classroom. Furthermore, how could actively utilizing a first language speaker within a classroom with bilingual learners help monolingual teachers be more effective?

What I Wish I Had Done: Trust the Process

Being able to create and carry out my own research was a meaningful experience for me. While there were many successes like the takeaways mentioned above, I also felt significant frustrations. My most notable frustration was with the initial set up of my research project. As I was beginning to go through my data and transcribe, I almost immediately felt as though I did not capture the right events through my activities. A major part of this feeling was that I was not 'seeing the answers' immediately and was having a difficult time seeing the patterns and significant moments in my data that Charmaz (2014) had talked so thoroughly about. I was reminded to have faith in the process and that patterns would emerge for me eventually. For any other researchers approaching TAR, I would encourage them to trust in the process. By continuing to listen to and watch my data, as well as diligently coding in the manner suggested by Charmaz (2014), I slowly saw patterns emerge.

It was almost a blessing that I did not have any set parameters in mind when thinking of my results, as it opened my eyes to intricate and interconnected ideas. As I became more and more familiar with the data, I continued to have this looming feeling that what I had set up in my procedures did not honor my original questions for my research, even though they had been tweaked and elaborated on. I found myself saying that "It seemed so easy for Storch!" and wishing I had similar comparisons between individual work and pair work (2002). I found myself also wishing I had conducted some mini-lessons or encouraged my students to focus on particular language features in their written retellings similar to George (2016) who conducted

mini-lessons focused on verb tense, and Lincoln (2016) who had her students focus on singular and plural endings in Yugtun.

What I realized though, is that the research in this paper is still valuable for me and other researchers even if I would make changes to my procedures and approach. Teachers reading this thesis who do not have time to conduct their own TAR can take away the knowledge that students want to work together and they want to do it well. They are naturally supportive during difficult times like Jon and Wass and encourage each other to create their best work like Chrissy and Andrea as well as Nellie and Payton.

Lastly, the experience of conducting research within my own classroom was transformative. This process of attempting to answer my own query increased my own investment in the quality of the data collection, analysis and outcome. While some aspects of this study were less than ideal, the transformation for me was in finding value in the data and events that had taken place and seeing that everything my students do towards language learning can be understood and built upon. The process of being able to slow down through this research gave me insight into ways my students make meaning and the confidence and strategy to implement these valuable ideas in future classrooms.

Future Research

Based on the data and analysis, there are a few paths that could be taken in relation to future research. One of those paths is to expand on Storch's (2002) idea of pair dynamics in collaborative groups. The results from that study showed that learning increased the most in pairs with a collaborative or expert/novice structure (Storch, 2002). I wonder how both first and second language proficiency, along with learner disposition or personality, play a role in supporting students' readiness to collaborate. It would be interesting to see what possible

qualities or abilities play a role in pairing that focused more on technical decisions in their writing (like Liz and Gina) as opposed to a pairing that focused more on making meaning from the available mediational tools (like Nellie and Payton).

With more time, investigating the idea of comfort and familiarity of learning in a collaborative setting would be worthwhile. Other research might explore how working in a collaborative pair over time changes the quality of the collaborative dialogue or how those learners use mediational tools. Continuing to connect to the dynamics of collaboration over time, further research could also be done into the gestures and body language that students might use as they co-construct learning.

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Appendix A: IRB Approval Letters

Original IRB Approval Letter October, 2018

(907) 474-7800
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www.uaf.edu/irb

Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

October 25, 2018

To: Wendy Martelle
Principal Investigator

From: University of Alaska Fairbanks IRB

Re: [1148726-2] Patterns in Output During Collaborative Writing in 3rd Grade

Thank you for submitting the Continuing Review/Progress Report referenced below. The submission was handled by Expedited Review under the requirements of 45 CFR 46.110, which identifies the categories of research eligible for expedited review.

Title:	Patterns in Output During Collaborative Writing in 3rd Grade
Received:	October 20, 2018
Expedited Category:	6 and 7
Action:	APPROVED
Effective Date:	October 25, 2018
Expiration Date:	November 5, 2019

This action is included on the November 7, 2018 IRB Agenda.

No changes may be made to this project without the prior review and approval of the IRB. This includes, but is not limited to, changes in research scope, research tools, consent documents, personnel, or record storage location.

Appendix A: IRB Approval Letters Con't
Continuing IRB Approval Letter November, 2017

(907) 474-7800
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Institutional Review Board
909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

November 7, 2017

To: Wendy Martelle
Principal Investigator
From: University of Alaska Fairbanks IRB
Re: [1148726-1] Patterns in Output During Collaborative Writing in 3rd Grade

Thank you for submitting the New Project referenced below. The submission was handled by Expedited Review under the requirements of 45 CFR 46.110, which identifies the categories of research eligible for expedited review.

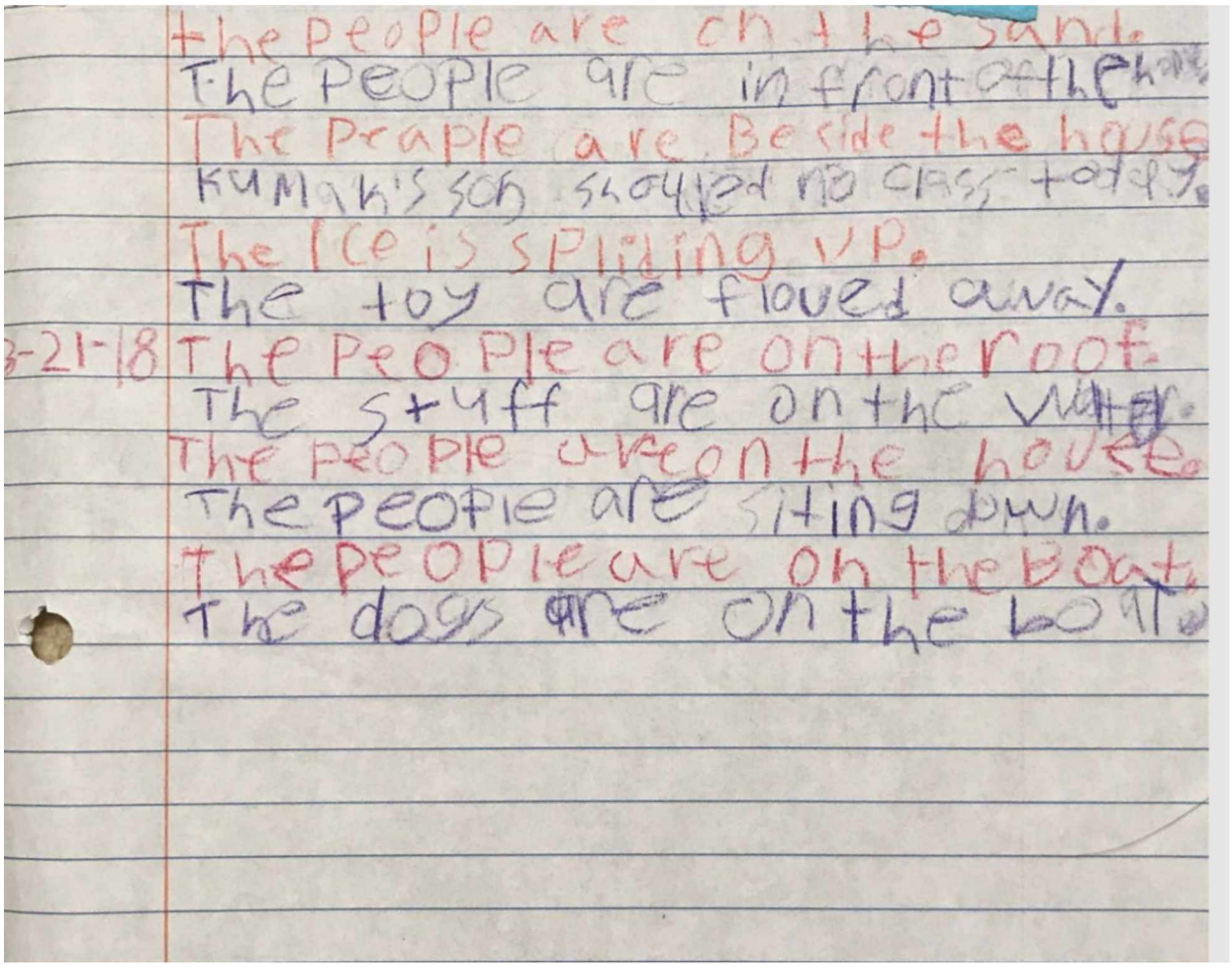
Title:	Patterns in Output During Collaborative Writing in 3rd Grade
Received:	November 1, 2017
Expedited Category:	*6 an 7*
Action:	APPROVED
Effective Date:	November 5, 2017
Expiration Date:	November 5, 2018

This action is included on the December 6, 2017 IRB Agenda.

No changes may be made to this project without the prior review and approval of the IRB. This includes, but is not limited to, changes in research scope, research tools, consent documents, personnel, or record storage location.

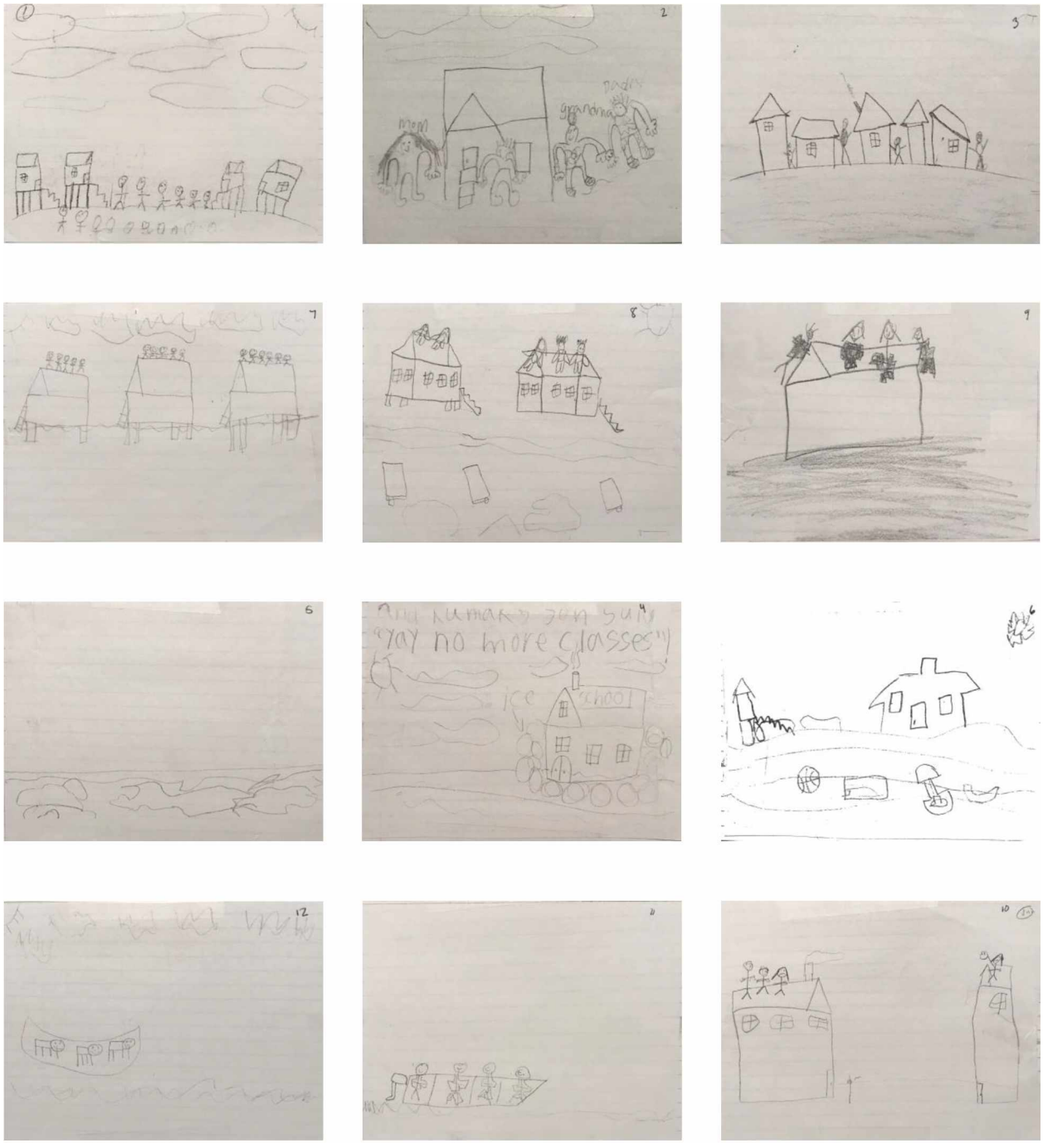
Appendix B: Nellie and Payton Cycle 1

Nellie and Payton Cycle 1 Written retelling of Bania (2012)



Appendix B: Nellie and Payton Cycle 1 Con't

Nellie and Payton Cycle 1 Sequenced Student Created Images Based off Bania (2012)



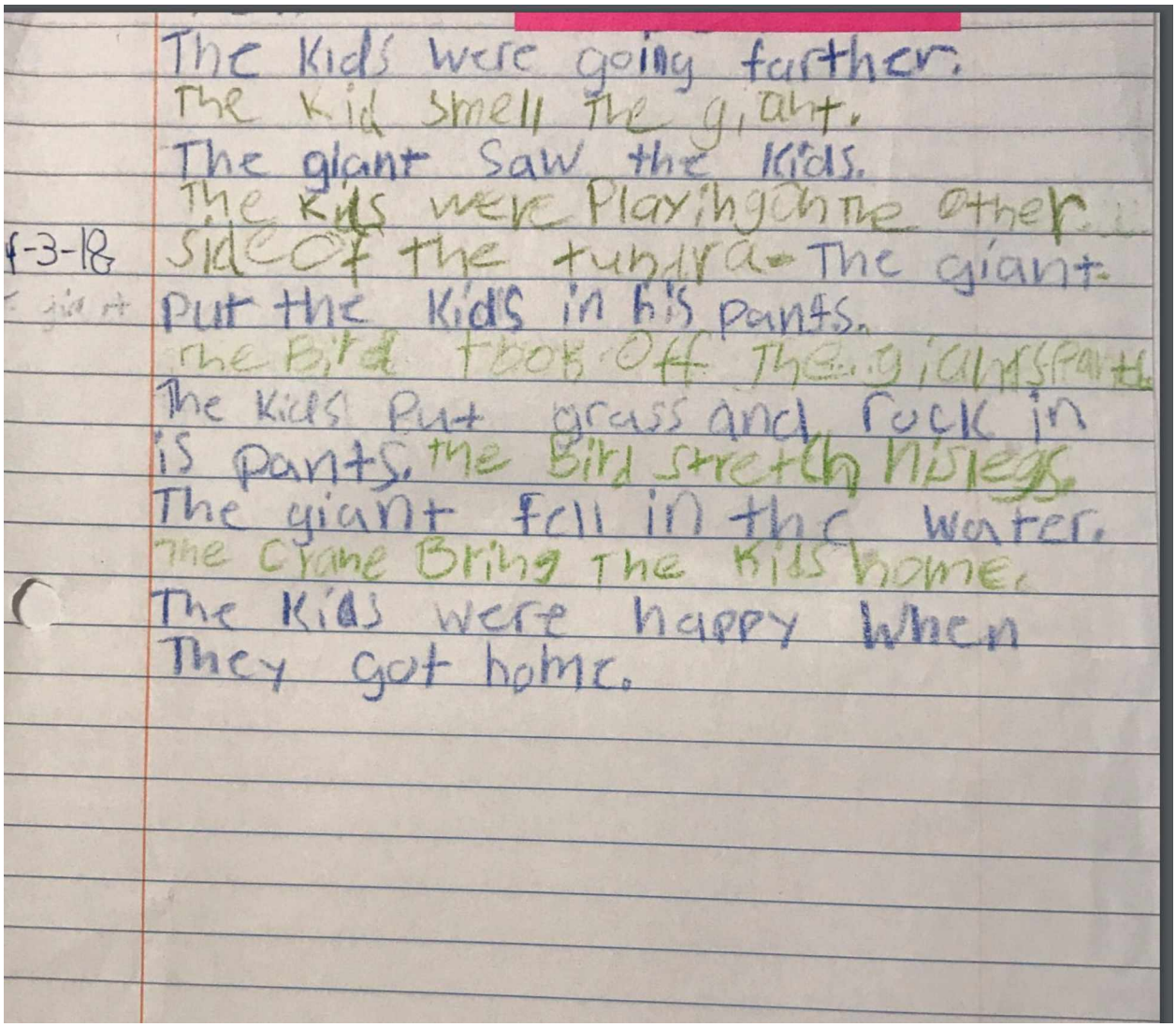
Appendix B: Nellie and Payton Cycle 1 Con't

Nellie and Payton Cycle 1 Full Transcription Based off Bania (2012): Shout

Line #	**Transcription**	**DME Occurrences**
163	N: whose turn	
164	P: we're doi-	
165	N: where are we already?	*Pointing to student image*
166	P: yeah	*leaning to look*
167	N: what is this	*Using the picture as a resource; discussing continuation; focusing on picture meaning*
168	P: uuuh the flood and Kumaks?	
169	N: [the flood] the flood let the-	
170	P: the kum- and kumaks son shout yay no more s-classes today	
171	N: k-u-m-a- kumaks –s son how do you spell shouted	
172	P: look	*Focusing on spelling*
173	N: me cant see	
174	P: s-h-	
175	N: sh ow	
176	P: o-u l-e-d…e-d…no classes today	*Focusing on word choice*
177	N: no c- wait me write em (small)	
178	P: class only	
187	lines 179-198	*Focusing on spelling*
190	P: period nananana oh	

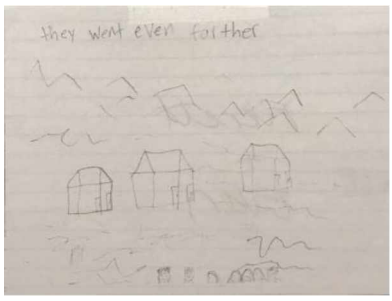
Appendix C: Jon and Wass Cycle 2

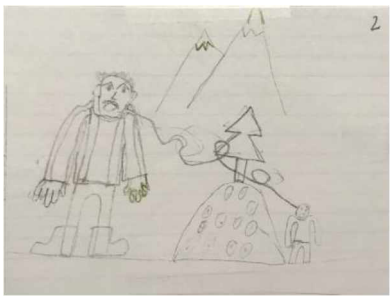
Jon and Wass Cycle 2 Written Retelling of Sloat (1993)

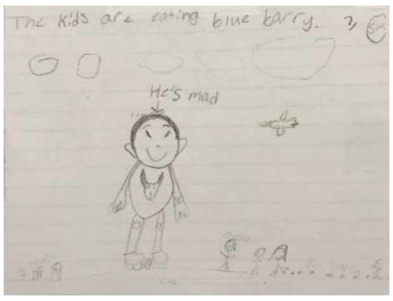


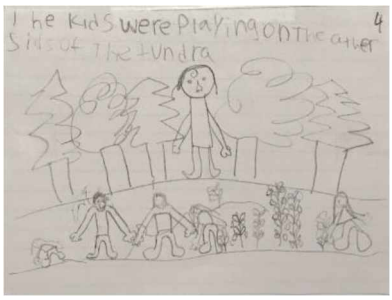
Appendix C: Jon and Wass Cycle 2 Con't

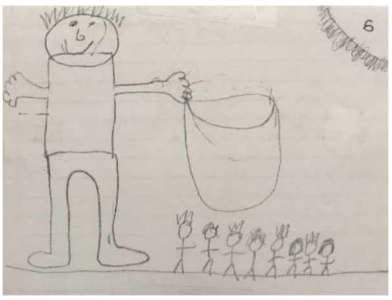
Jon and Wass Cycle 2 Sequenced Student Created Images Based off Sloat (1993)

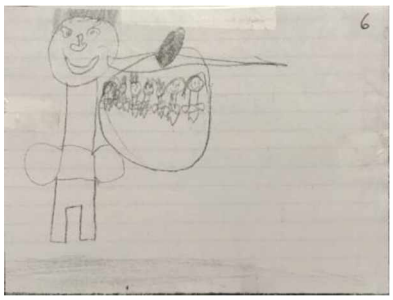


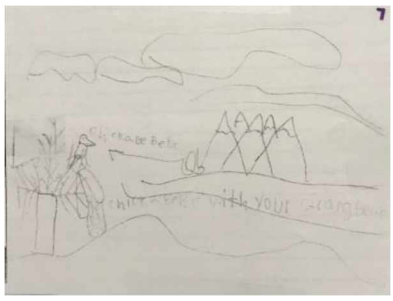


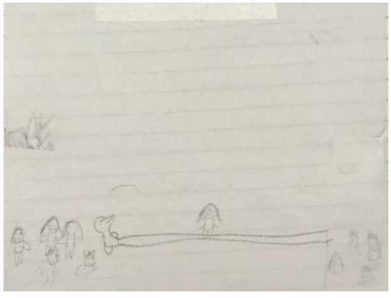






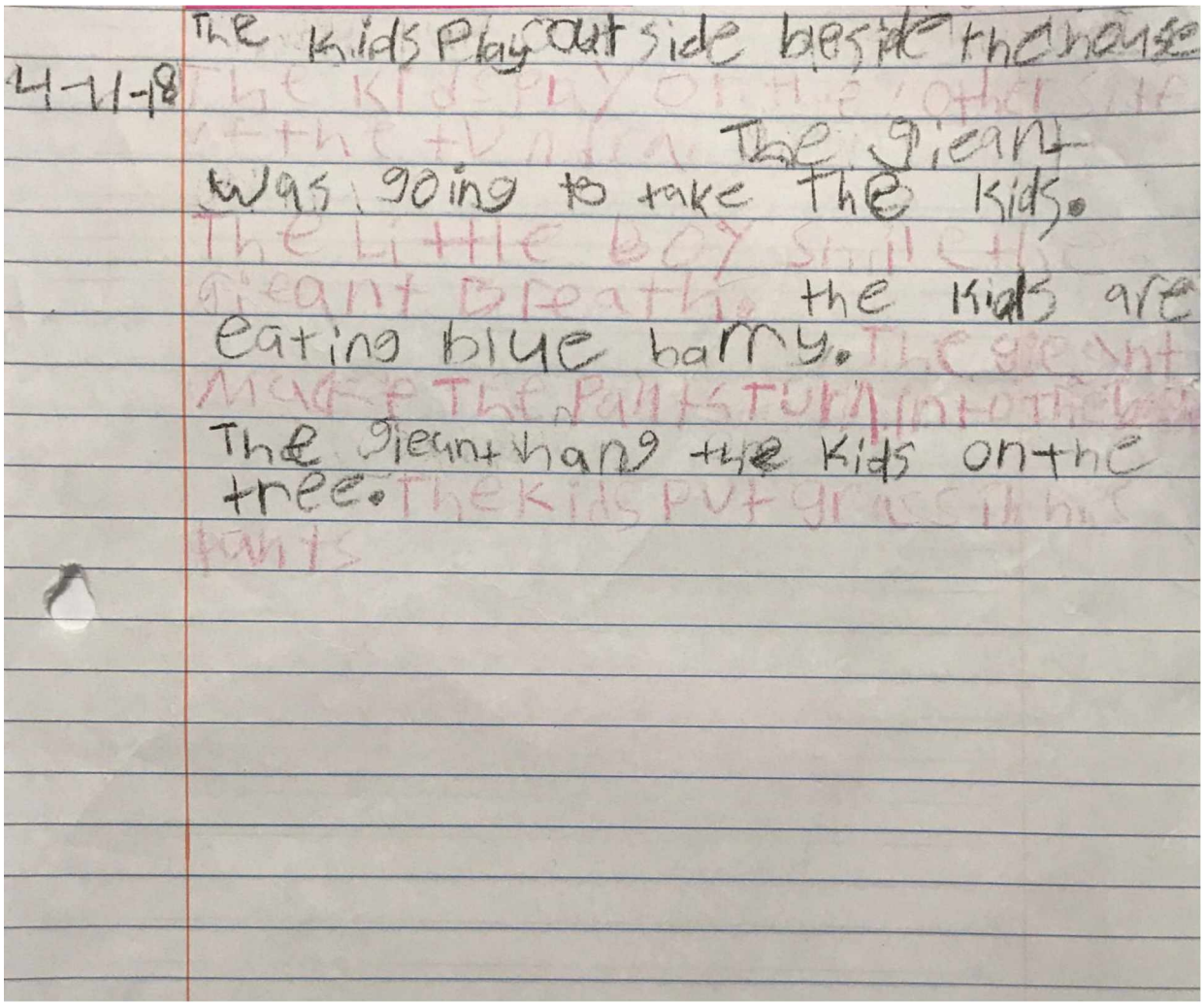






Appendix D: Nellie and Payton Cycle 2

Nellie and Payton Cycle 2 Written Retelling of Sloat (1993)



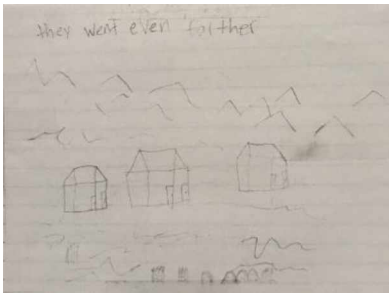
Appendix D: Nellie and Payton Cycle 2 Con't

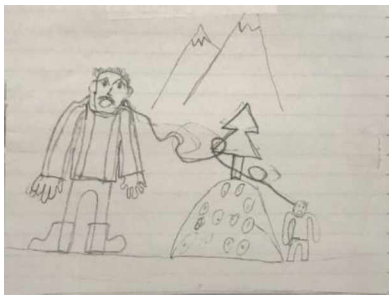
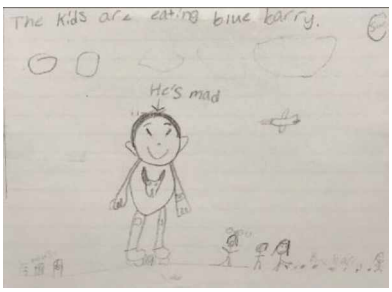
Nellie and Payton Full Transcription Based off Bania (2012): Picking Berries

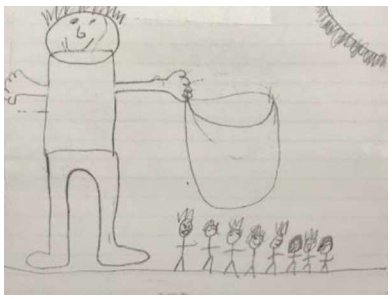
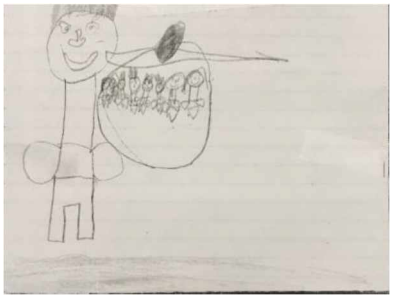
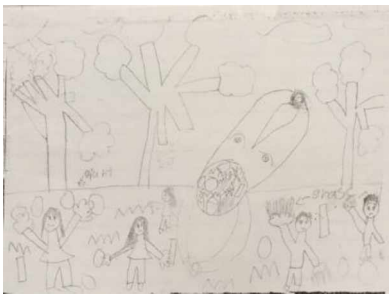
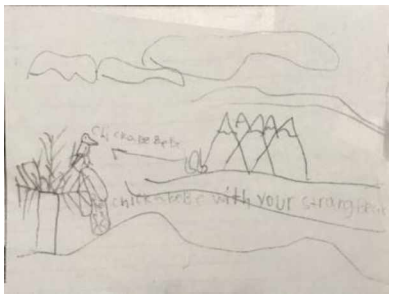
Line #	Transcription	DME Occurrences
355	P: okay.. hurry up before-	Telling partner shes done; rushing partner
356	N: what this doing	Soliciting input
357	P: um	Tihinking outloud
358	N: the kid were eat-	Continuing story
359	P: the giants mad	Offering alternative
360	N: mm em	Contemplating partner suggestion
361	P: and a	Thinking; continuing stroy
362	N: the-	thinking
363	P: kids ran away	Offering alternative
364	N: not they're picking blue berries	Disagreeing with partner
365	P: eh	Acknowledging she sees what partner is pointing to
366	N: the.. kids	Dictating to self
367	P: were	Dictating to partner
368	N: pi- are	Dictating to self; using alternative verb
369	P: (in?/ing)	
370	N: (e too?)… blue-	Dictating to self; writing
371	P: [berry]	Dictating to partner

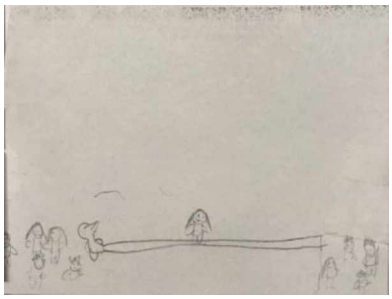
Appendix D: Nellie and Payton Cycle 2 Con't

Nellie and Payton Cycle 2 Sequenced Student Created Images Based off Sloat (1993)

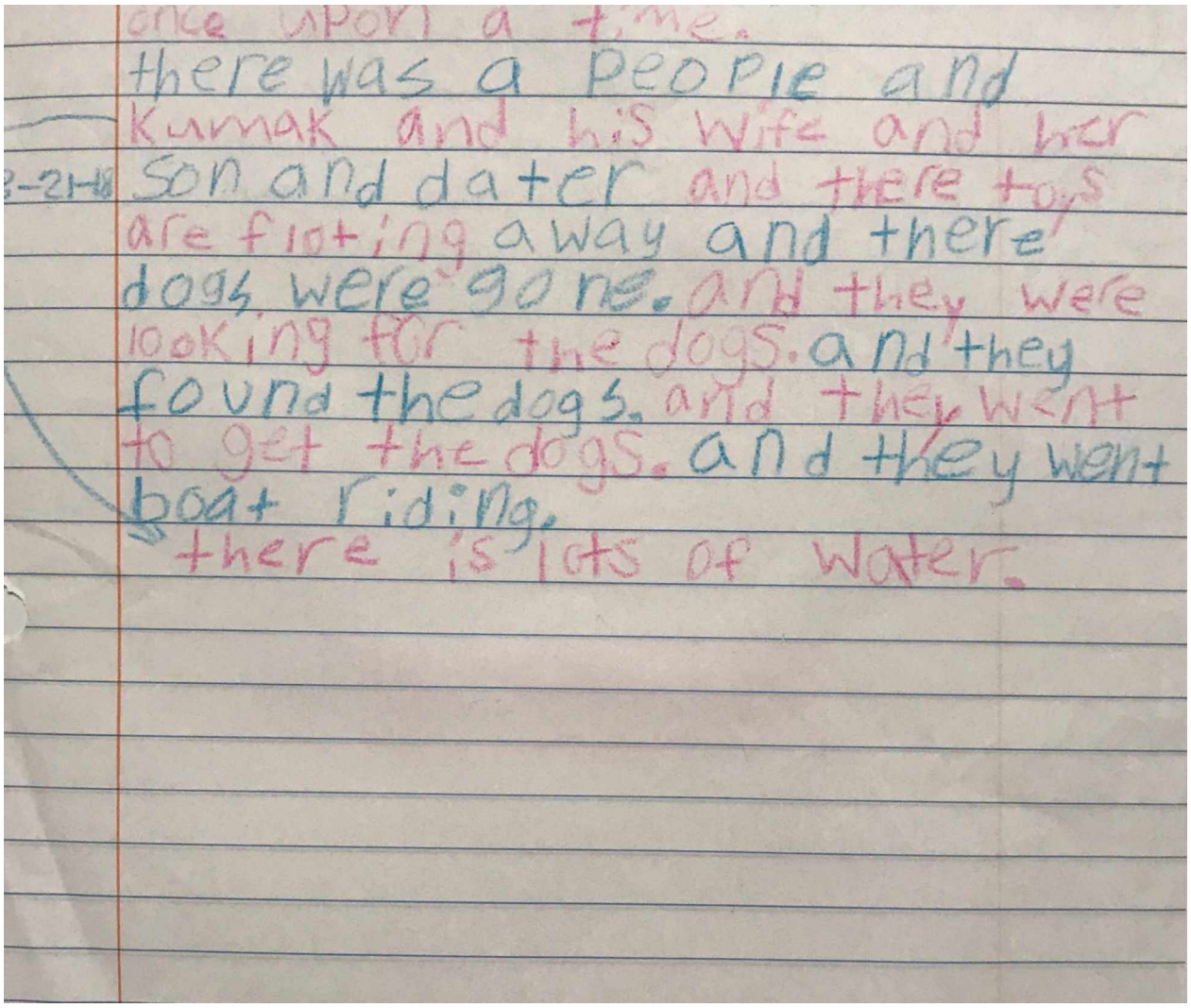



Appendix E: Liz and Gina Cycle 1

Liz and Gina Cycle 1 Written Retelling of Bania (2012)

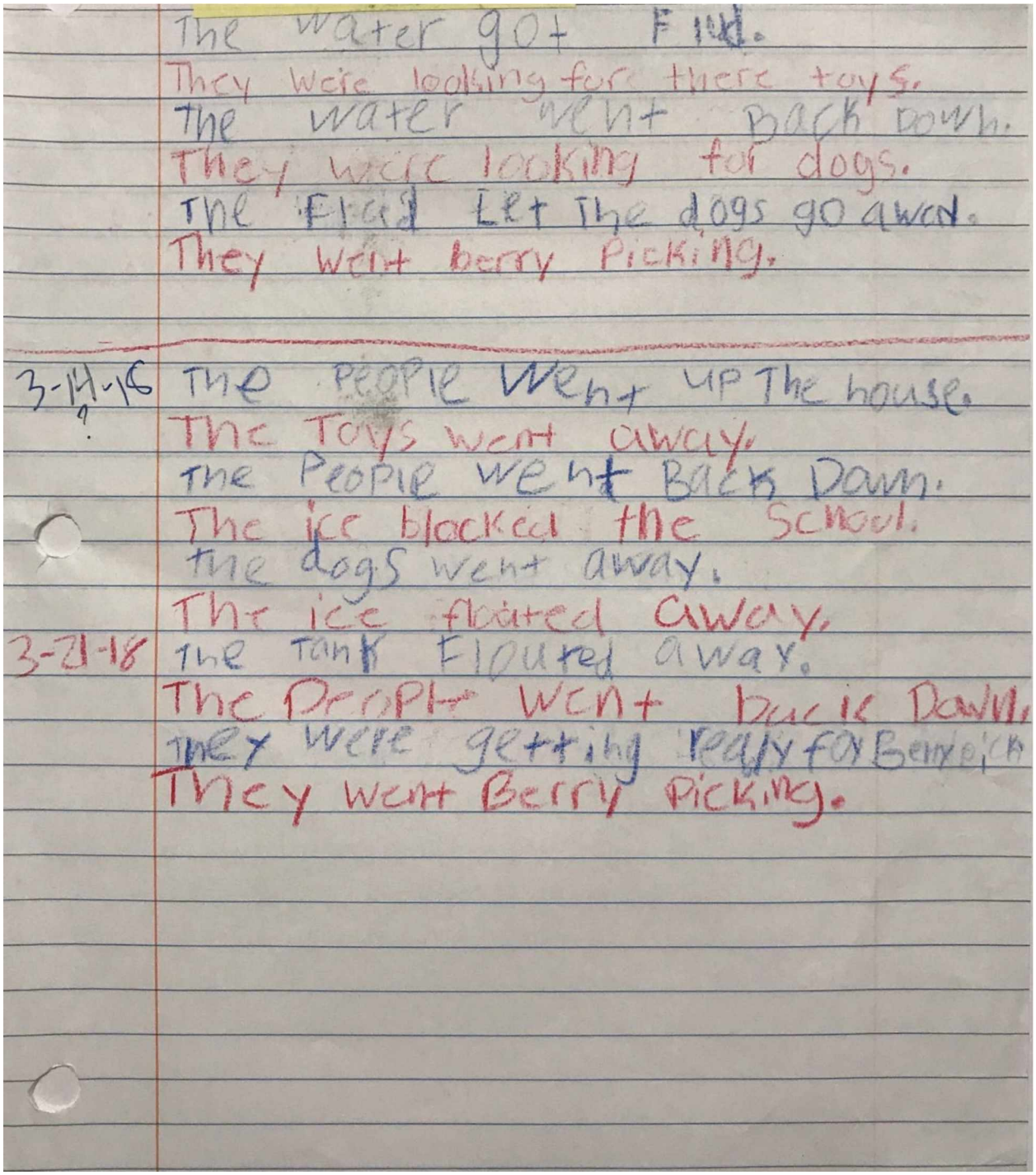


Appendix E: Liz and Gina Cycle 1 Con't

Liz and Gina Cycle 1 Sequenced Student Created Images Based off Bania (2012)

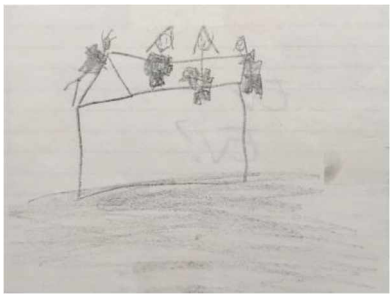
Appendix F: Jon and Wass Cycle 1

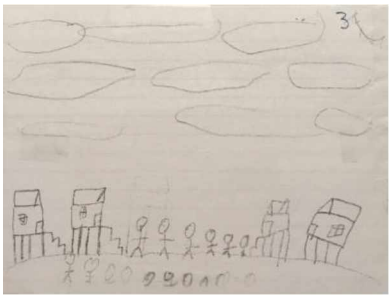
Jon and Wass Cycle 1 Written retelling of Bania (2012)

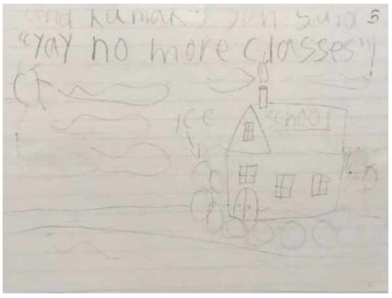


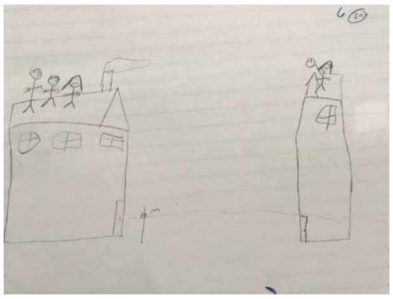
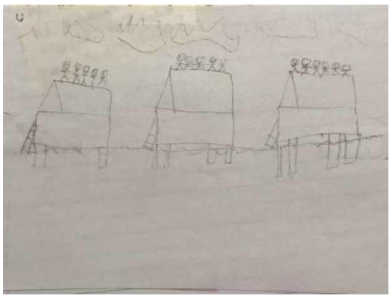
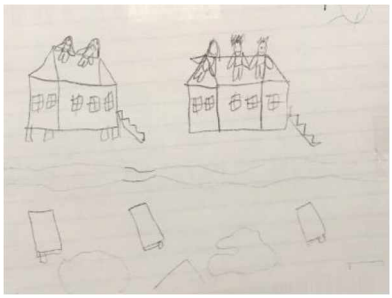
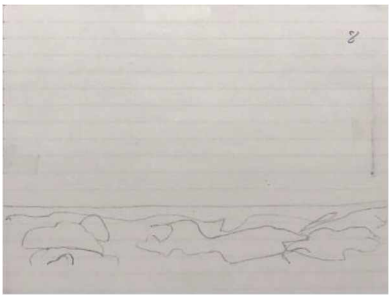
Appendix F: Jon and Wass Cycle 1 Con't

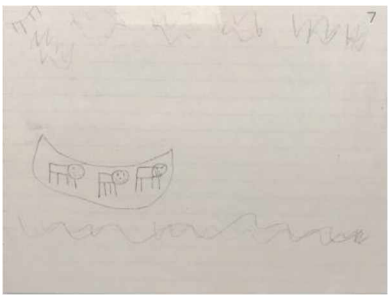
Jon and Wass Cycle 1 Sequenced Student Created Images Based off Bania (2012)

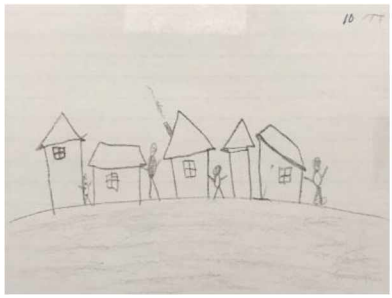


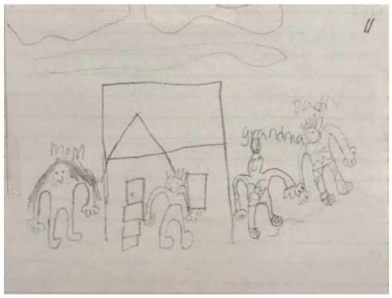


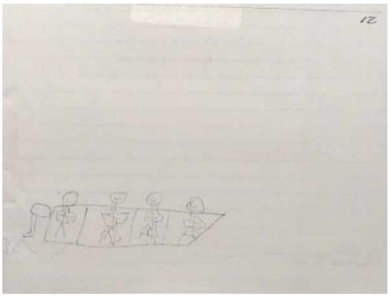




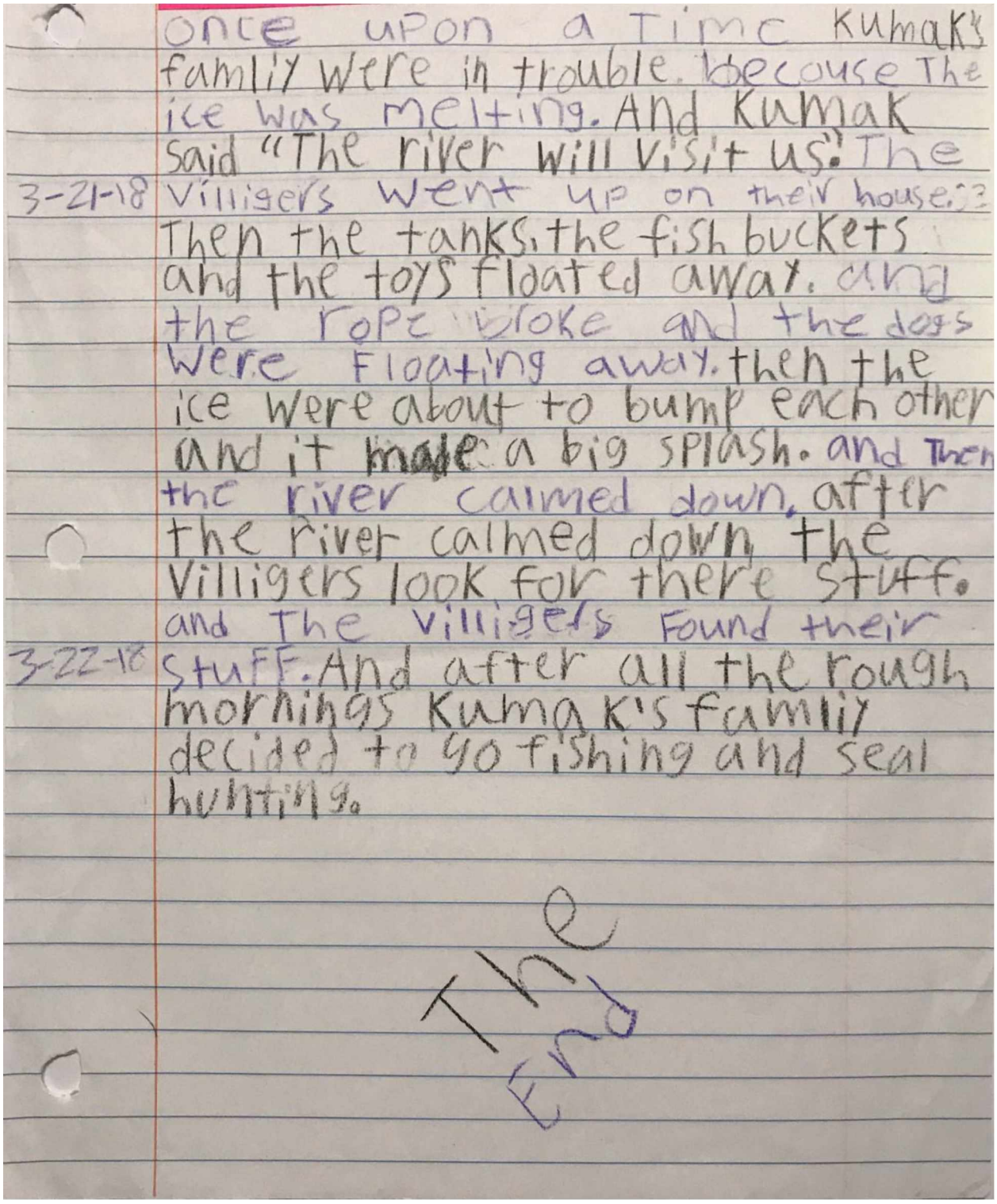






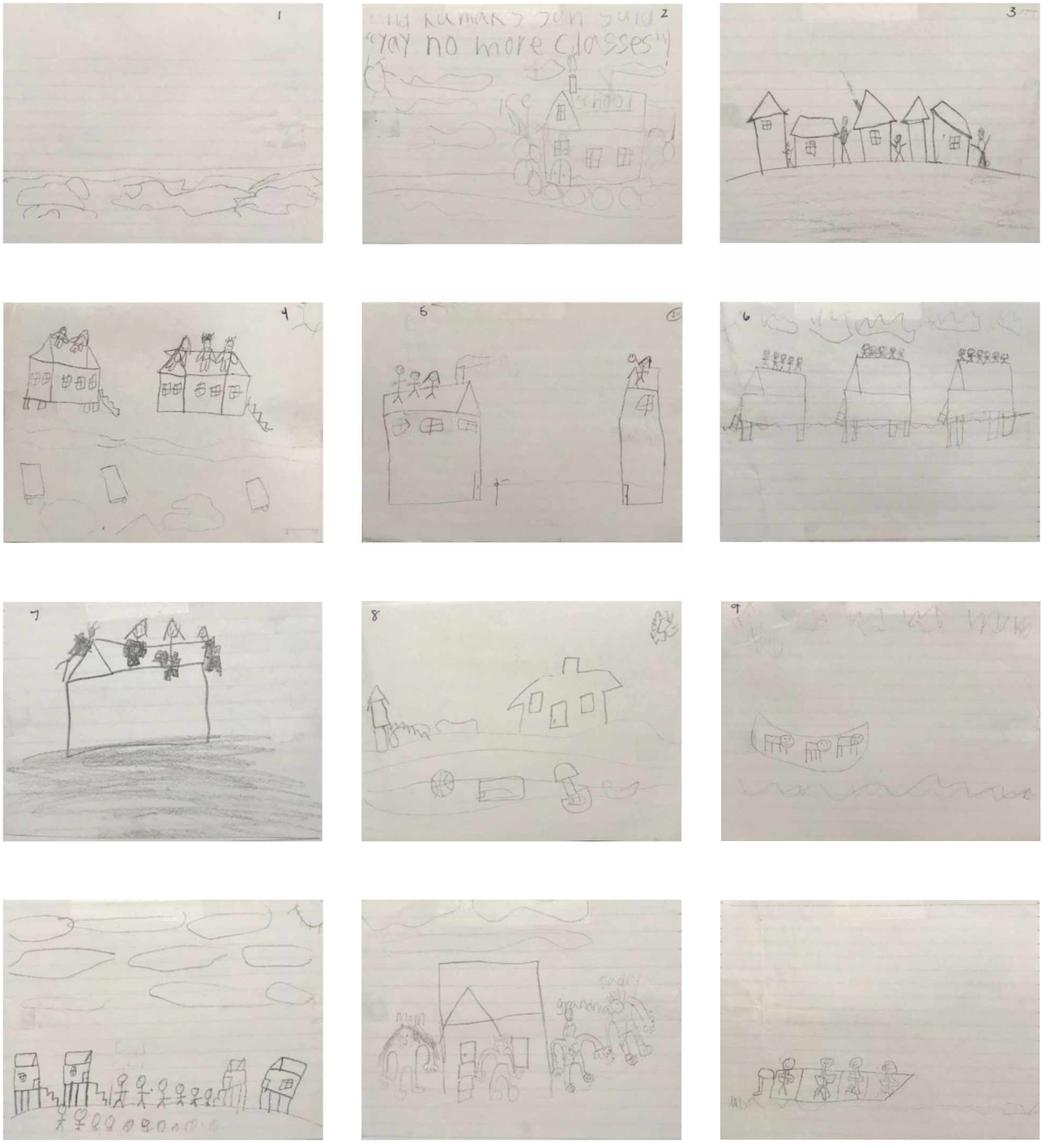
Appendix G: Chrissy and Andrea Cycle 1

Chrissy and Andrea Cycle 1 Written Retelling of Bania (2012)



Appendix G: Chrissy and Andrea Cycle 1 Con't

Chrissy and Andrea Cycle 1 Sequenced Student Created Images Based off Bania (2012)



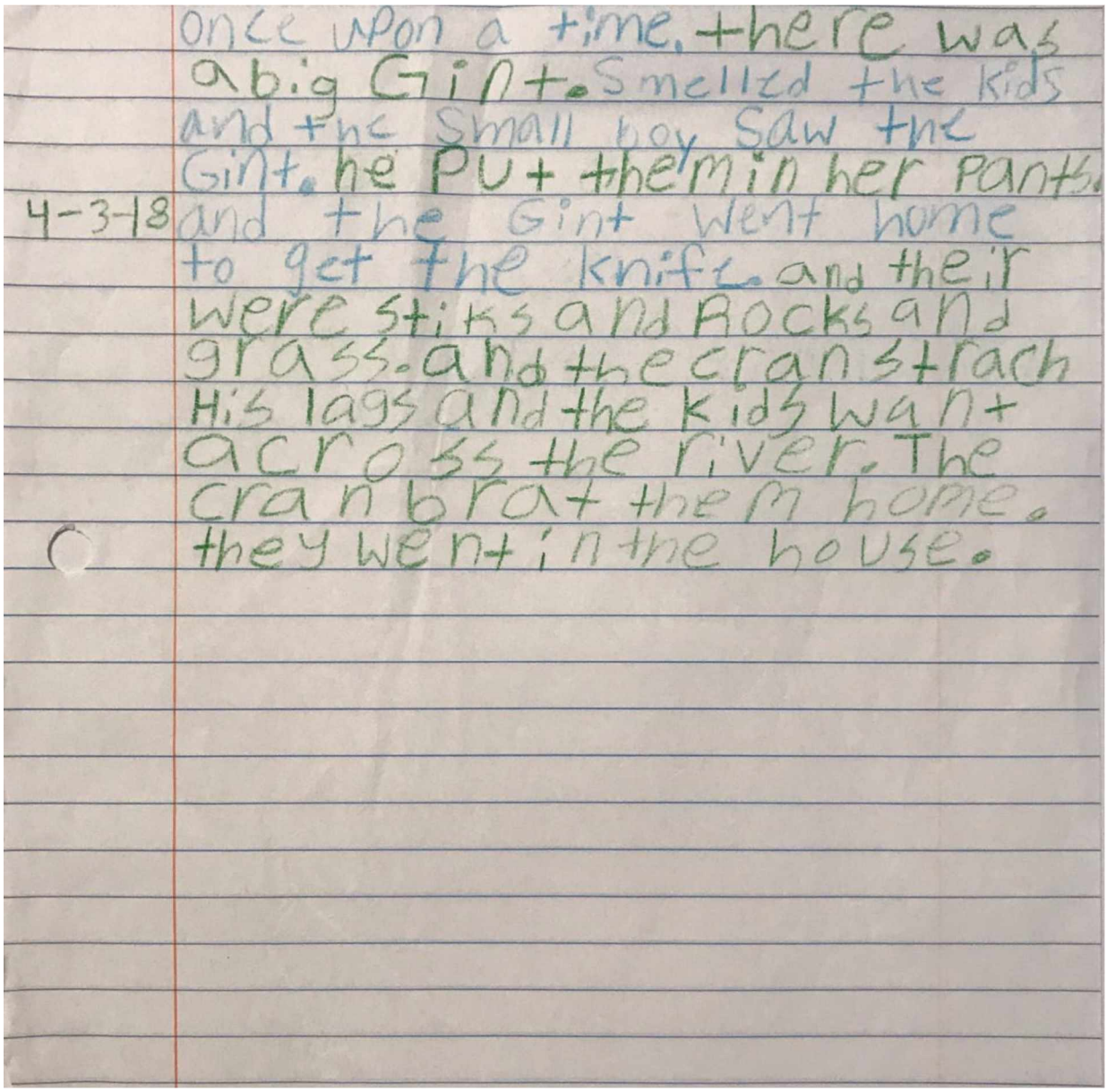
Appendix G: Chrissy and Andrea Cycle 1 Con't

Chrissy and Andrea Full Transcription Based off Bania (2012): Dogs' rope broke

Line #	Transcription	DME Occurences
139	A: now we're on this one	Finding place in writing
140	C: I [shoulda] fixed it a while ago what we had [?]	Taking ownership
141	A: the	Giving word; starting continuation; writing
142	C: and after the rope broke the rope broke and then after the the dogs floated away	Offering sentence for P to write
143	A: huh what did you say	asking for clarification
144	C: um then after the dogs rope broke	Asking P to repeat
145	C: and the dogs	
146	A: [the dogs]	
147	C: the boats	
148	A:huh	
149	C: and then the boats the boat	
150	A: [and]	
151	C: wait we're still working on this part	
152	A: mmm	
153	T: don't worry about it I'm glad you are taking your time	
154	A: the boats	
155	A: and the boats rope broke	repeating sentence from line 142
156	C: k	Accepting P alternative sentence
157	A: broke and the rope broke	Repeating/echoing
158	C: and the dogs	Finishing sentence
159	A: and the dogs	Checking/confirming word choice
160	C: dogs was float away	Agreeing with P word choice
161	A: were was was	Continuing sentence/writing sentence/reading sentence?
162	C: Okay was	Offering alternative word
163	A: and the rope broke then the dogs were dogs was dogs was [chuckle]	Accepting alternative
164	C: how bout were	Spelling 'were' for P
165	A: the dogs was	Writing 'were'
166	C: w-e-r-e	Dictating sentence
167	A: were	Sounding out 'floating'
168	C: floating	Making a plan/ directing P
169	A: oo aa ting away	Making a plan/ directing P
170	C: then after the dogs	Giving up control
171	A: your turn	Accepting control
172	C: okay and then af-	Interrupting/offering a new sentence

Appendix H: Liz and Gina Cycle 2

Liz and Gina Cycle 2 Written retelling of Sloat (1993)



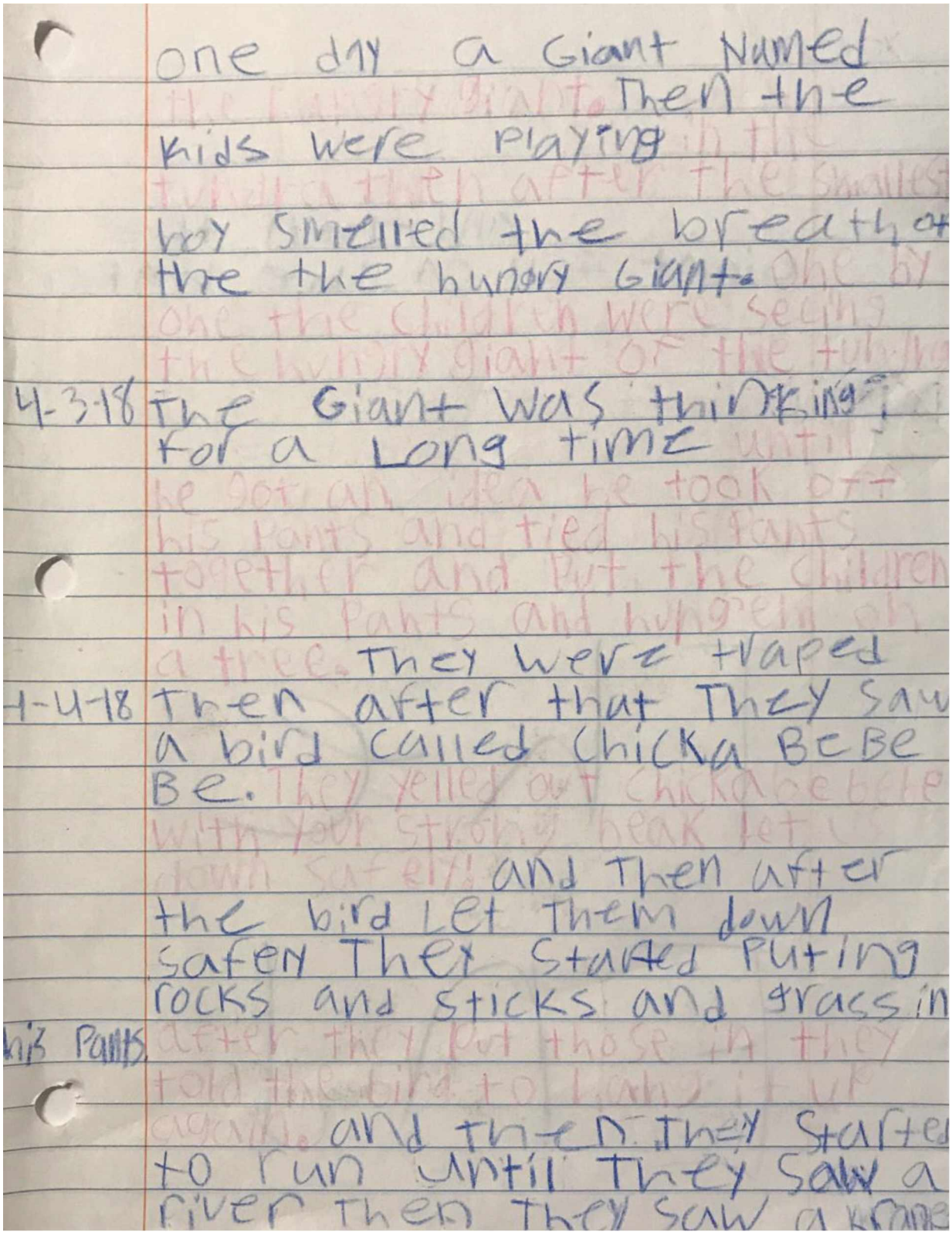
Appendix H: Liz and Gina Cycle 2 Con't

Liz and Gina Full Transcription based off Sloat (1993): Who Starts

Line #	**Transcription**	**DME Occurrences**
65	L: Ms. Short said I got to write the date	*Discussing writing placement*
66	G: look I can do it right here look right here	
67	L: down here	
68	G: okay	
69	L: (how) you write once upon a time	
70	G: you first	*Taking Turns*
71	L: onccce	*Self-talk and off task behavior*
72	G: upon a time	
73	L: eenn	
74	G: this is Chrissy's and Andreas	
75	L: [aaaaaaay] tiiime	
76	G: chicka bee bee bee	
77	L: your turn	*Taking Turns*
78	G: once upon a time….once upon a time then- once upon a time..eh…there wah as a buh ig bit big what? Giant?	*Focusing on word choice; Discussing continuation*
79	L: mhm	
80	G: gu eye- how do you spell giant giant giant giant giant	
81	L: mm nn	
82	G: g- i- giant now its your turn giant what	*Taking Turns*

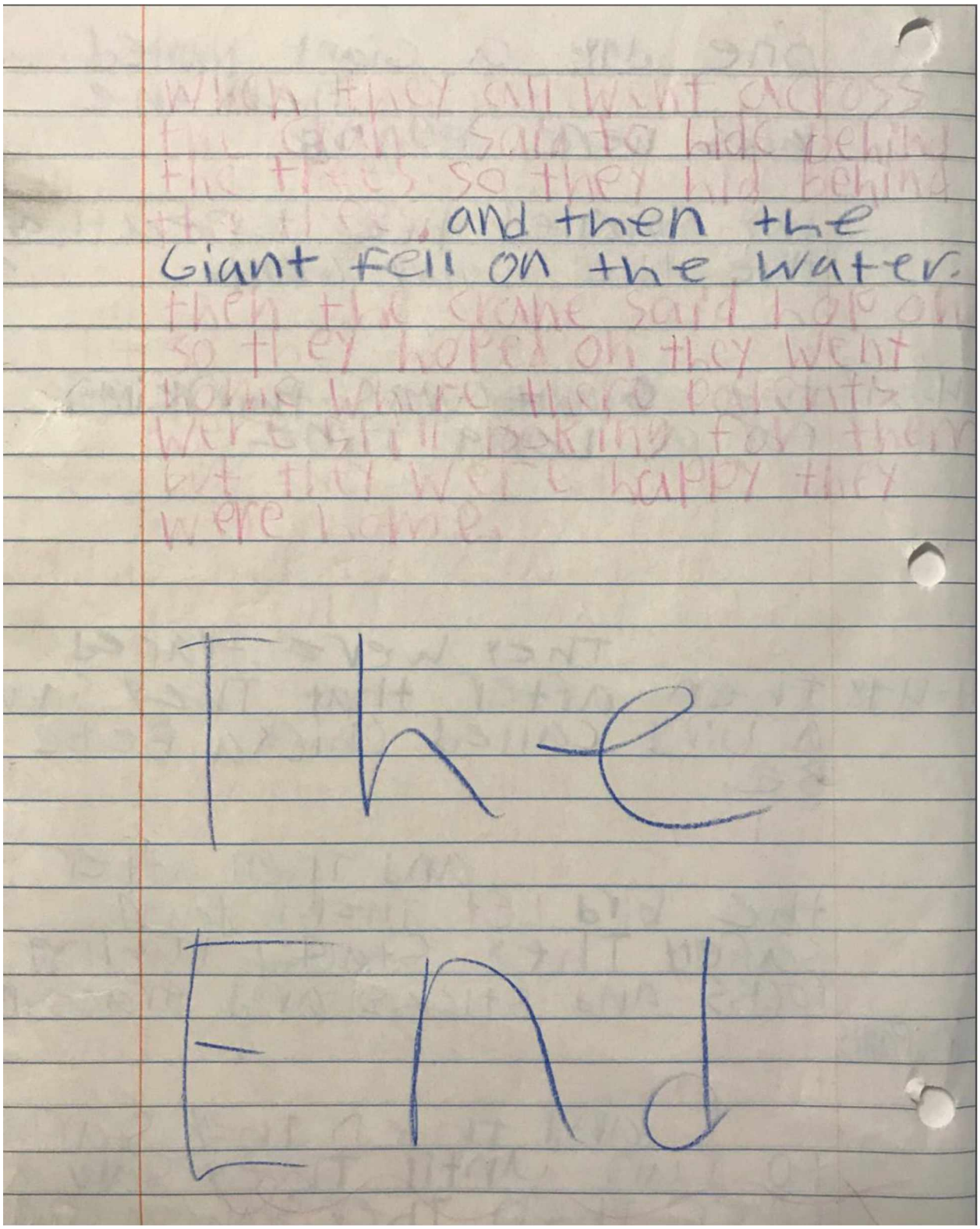
Appendix I: Chrissy and Andrea Cycle 2

Chrissy and Andrea Cycle 2 Written retelling of Sloat (1993)-Page 1



Appendix I: Chrissy and Andrea Cycle 2 Con't

Chrissy and Andrea Cycle 2 Written retelling of Sloat (1993)-Page 2



Appendix I: Chrissy and Andrea Cycle 2 Con't

Chriss and Andrea Full Transcription Based off Sloat (1993): The River Calmed

Line #	Transcription	DME Occurrences
314	C: [the bird] put.. up geee.. again..now your turn you know what's gonna happen	
315	A: this one	
316	C: m- um no mhm	
317	A: what	
318	C: how do we put it umm and then after that they were running til they sawn a river and then they sawn a crane	*Continuing the retelling*
319	A: and then they	*Dictating sentence and self-talk*
320	C: were	
321	A: and then they..they.. were	
322	T: that's not your business	
323	C: oh sorry	
324	A: and then they	
325	C: my mom writes like that or and then they started	
326	A: and then they s and they sss they	
327	C: they started	
328	A: and then and then they sss tt aarrr ted started	
329	C: to..run..until	
330	A: tooo ruunn	
332	A: nn tuh ill	*Focusing on spelling*
333	C: like this (until) because it's right here look wait	
334	A: till until	
335	C: until.. they.. sawn…saw you know how- um I'll show you get rid of the en and then put aaaa doubleyou	
336	A: saw	
337	C: and then make this a ay	
338	A: saw what a crane?	
339	C: saw.. a.. river… then..	
340	A: t-h	
341	C: they..saw.. a.. naaaa I think you're supposed to put a cee I think are we? Are we supposed to put aaaaa	*Focusing on spelling*
342	A: doesn't make sense Chrissy and then put a eee	
343	C: [oh okay] did you know it's hearing us	
344	A: its okay	
345	C: aaaah kay or cee because I don't know how to spell crane	
346	A: kay	
347	C: oh okayyy	
348	A: k errr	
349	C: ooookaaayyy saaaaw what are we supposed to do so now go to the back	*Focusing on organization*